GROWTH PEFORMANCE AND RISK ANALYSIS OF DIVERSIFIED EQUITY MUTAL FUNDS: A STUDY

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ABSTRACT

Mutual fund is a mechanism for pooling the resources by issuing units to the investors and investing funds in securities in accordance with objectives as disclosed in offer document. Investors need to know how risky individual assets are and what their contribution to the total risk of a portfolio would be. Plenty of Mutual Funds are available where the investors can put their money. Before investing they want to know which fund gives more return, which fund is performing well, which fund is more risky etc. Mutual fund returns can be compared using mean & Compounded Annual Growth Rate. Risk can be analyzed by finding out Standard Deviation, Beta while performance analysis is based on Risk-Return adjustment. Key ratios like Sharpe ratio and Treynor ratio are used for Risk-Return analysis. Funds are compared with a benchmark, industry average, and analysis of volatility and return per unit to find out how well they are performing with respect to the market Value. Risk analysis can be done to find out the maximum possible losses in a month given the investor had made an investment in that month. The present study found that all the funds except one have outperformed the Benchmark return.

***Keywords**: Financial Securities, Benchmark, Risk-Returns adjustments, Beta, Growth rate.*

INTRODUCTION

The Indian Mutual Fund Industry emerged as a dominant financial intermediary in Indian capital market during the last couple of years. It is rapidly expanding and poised to play a major role in the management of wealth of investors, both individual and corporate. The mutual fund industry is a sunrise industry and the potentiality for growth is almost unlimited. The industry broadly caters to all types of investors depending on their risk return preferences. A mutual fund is the ideal investment vehicle for today's complex and modern financial scenario. Mutual funds offer several advantages over investing in individual stocks, including diversification and professional management. A mutual fund may hold investments in dozens of stocks, thus reducing the risk associated with owning any particular stock.

Moreover, the transaction costs associated with buying individual stocks are spread around among all the mutual fund shareholders. Additionally, a mutual fund benefits from professional fund managers who can apply their expertise and dedicate time to research investment options. Thus funds play a significant role in financial intermediation development of capital markets and growth of the financial sector as a whole. Indian mutual fund industry has grown significantly in terms of financial assets under their management, range of products and number of investors. Million of investors are depicting their confidence in the abilities of the fund managers in successfully managing their wealth.

REVIEW OF LITERATURE

A. HISTORICAL PERFORMANCE EVALUATION OF MUTUAL FUNDS

Historical performance of mutual funds one of the major indicators of its likely performance in future. The study enables us to get insights into the various aspects of portfolio management affecting the performance of a common fund. However one of the risk factors mandatory to be included in the offer document in Indian context is the statement "the past performance may or may not be an indicator of future performance." Following studies support the hypothesis that historical performance is one of the major indicators of likely future performance.

Nancy (1985) stated that study of the past performance is helpful in forecasting. Study of the past performance unveils some or all factors that influence the level of financial returns. The study of these factors may help in improving the ability and accuracy of forecasting future returns. This study is likely to be useful for investors and portfolio managers

According to Haslem (1988) the past performance is the most important aspect for the mutual fund because it is basis to estimate how well the fund would perform in future.

B. PERFORMANCE IN TERMS OF RATE OF RETURN

Absolute Measure of Performance

Performance in terms of growth of Net Assets value (NAV) per unit is commonly applied measure of performance of mutual funds. According to Firth (1977), Unit Trust Performance in the UK has used returns as the sole yard stick of evaluation. According to

Firth rate of return on equities held by the equity mutual fund have a direct bearing on the fund performance.

According to Gupta LC (1981) presented a detailed and well-based estimate of "Portfolio" rate of return on equities. This pioneering study in the Indian context has been a major contribution in this field and is regarded as the benchmark on the rate of return on equities for the specified time. He laid the basis of rate of return concept in performance evaluation.

Jain (1982) evaluated performance of unit trust of India (UTI) during 1964-65 to 1979-80, including the profitability aspects of unit scheme 1964, unit scheme 1971 and unit scheme 1976. He concluded that its real rate of return have been low indicating overall poor, performance of UTI Schemes. There has been so significant increase in the profitability over the years.

Arnaud (1985) has suggested that there are three basic measurements of the performance of investment trust company at three basic levels in terms of capital changes. As per the first approach, market value of investments is to be monitored duly adjusted for liabilities. In the second approach NAV per unit is measured, which is considered as more acceptable measure of mutual fund performance. Third level of measurement is to follow share price movements.

Stopp (1988) had evaluated mutual fund schemes (UK) in terms of rate of return generated for the investors for the period ended December 31, 1986. He also examined inter-group performance by re-grouping the sample into four broad categories. He suggested that choosing funds based on outstanding performance might be a recipe for disaster as the sectors, which tend to produce the most outstanding performance may also carry the greatest risk.

Grinblatt and Sheridan (1989) evaluated performance in terms of gross returns of mutual funds. They constructed eight portfolio benchmark based on firmsize, dividend yield and past returns. One month T-Bills were used as risk-free return. The period of study was December 31, 1974 to December 31, 1984. The findings revealed that abnormal performance of the funds based on gross returns is inversely related to the size. They pointed out that superior performance may exist for funds with smallest size of net assets value. But due to high expenses, the investors are unable to take advantage of their superior performance.

According to Fredman (1996) the combined effect of capital charges and income received contribute to the total return or overall rate of return generated by the fund. Total

return considering both these factors is the most appropriate absolute measure of performance evaluation.

C. PERFORMANCE IN TERMS OF BENCHMARK COMPARISON

Benchmarks comparison is important performance measure as it indicates to what extent the fund managers were able to produce better performance of managed portfolio compared to the market or index portfolio.

According to Amaud (1985) benchmark comparison is 3rd level of performance which indicates how well or worse the managed portfolio has performed.

Haslem (1988) evaluated fund performance by comparing the fund return with the return on market portfolio with the comparable risk. The fund's systemic risk, beta co-efficient is used to compare portfolio risk relative to the market risk. 'Beta' is a measure of risk of the fund's portfolio relative to the risk of the market portfolio.

Radcliff (1994) had concluded in his work that to receive greater average yearly returns, the investors must accept greater variability in returns; they should have higher risk tolerance level.

Hudson (1997) 'Wherever performance evaluation is implemented, there will always be two key ingredients (a) a measure of return and (b) a measure of risk, over a given time horizon. Proper evaluation and comparison is possible only if the reporting standard is of high quality and there are well based standards for calculating NAVs.

D. PERFORMANCE IN TERMS OF RISK-ADJUSTED RATE OF RETURN

Portfolio performances without reckoning the risk exposure do not provide fail and true picture. Various studies in the past have not only examined performance in terms of rate of return but also evaluated portfolio performance in terms of risk-adjusted rate of return (Treynor and Sharpe's indices). Equity mutual funds assume higher risks compared to gifts, bonds or other government securities. Hence they are expected to produce returns not only higher than the returns offered by gilts, bonds or other government securities but also high enough to match the risk level of a given equity fund.

Treynor (1965) and Sharpe (1966) have provided the conceptual framework of relative measure of performance of equity mutual funds while Treynor used systematic risk. Sharpe used total risk to evaluate the mutual fund portfolio performance higher value of Treynor's index indicates better performance of portfolio and vice versa. The Treynor's measure of portfolio performance is relative measure that ranks the funds in terms of risk and

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

Fama (1972) advocated yet another measure of portfolio performance which suggested that overall portfolio performance has two components first the performance due to stock selection ability of the fund manager and second the performance due to higher portfolio risk assumed by the fund manager.

Henriksson (1984) evaluated performance in terms of market timing abilities with sample of 116 open ended investment schemes during the period, February 1968, June 1980. The empirical results obtained indicated unsatisfactory timing skills of the fund managers. Arnand (1985) had suggested that absolute return generated by the fund is one measure of performance. The question before fund managers is whether the find can perform better by selecting and holding different set of stocks or not. This can be judged by comparing the fund performance with some benchmark portfolio or index portfolio.

Holthausen (1992) have developed a model based on 60 financial ratios that predicts return over 12 months period. The strategy used in the study is to go long position in the companies predicted to have positive excess return and go short position in companies predicted to have negative return. The study was found particularly useful predictor of stock prices and can be useful in fundamental analysis while taking equity investment decisions.

Cochran (1993) have examined 'predictability' of stock returns. They suggested that stock returns are predictable. The degree of predictability increases as the time horizon lengthens. The author has examined the predictability of stock returns using international stock market data from 18 countries. Their results show that dividend yield can predict stock returns and the level of predictability increase as the return horizon increase from one month to 48 months.

Fredman (1996) suggested that the risk is measured in terms of the variation or volatility of the fund's net Asset value. The more extreme are the fluctuations in aggregate value of the assets of the fund over a period, the greater is the volatility or risk. The author has described standard deviation as the most insightful and dependable barometer of measuring volatility or risk.

Daniel (1997) has concluded that the 'persistence in mutual funds performance' is due to the use of simple momentum strategies by the fund managers rather than due to certain

fund managers having 'hot hand' that allow them to pick winning stocks. Results show that particularly aggressive growth funds exhibit some "selectivity" ability but no "timing ability."

Barua and Uerma (1991) Provided empirical evidence of equity mutual fund performance in India. They studied the investment performance of India's first 7 year close-end equity mutual fund, Mastershare. They concluded that the fund performance satisfactory for large investor in term of rate of return.

Vaid (1994) looked at the performance in terms of the ability of the mutual fund to attract more investors and higher fund mobilization. It shows the popularity of the mutual fund as it is perceived to pay supervisor returns to the investors. She concludes that even for equity - Oriented funds, investment is more in fixed income securities rather than in equities, which is a distortion.

Sarkar and Mazumdar (1995) evaluated financial performance of five close ended growth funds for the period February 1991 to August 1993. Concluded that the performance was below average in terms of alpha values all negative and statistically not significant and fund possessed high risk. No reference was provided about the timing parameters in their study.

Sahadevan and Raju (1996) focused on data presentation on Expenses and other related aspects, which are generally covered in annual reports of the mutual funds without going into the details of financial performance evaluation of the funds.

Gupta and Sehgal (1997) evaluated mutual fund performance over a four year period, 1992-96. The sample consisted of 80 mutual fund schemes. They concluded that mutual fund industry performed well during the period of study. The performance was evaluated in terms of benchmark comparison, performance from one period to the next and their risk return characteristics.

Mishra (2001) evaluated performance over a period, April 1992 to December 1996. The sample size was 24 public sector sponsored mutual funds. The performance was evaluated in terms of rate of return, Treynor, Sharpe and Jensen's measure of performance. The study also addressed beta's instability issues. The study concluded dismal performance of PSU mutual funds in India, in general, during the period 1992-96.

Singh and Meera (2001) in their book presented a framework for conducting critical appraisal of mutual fund performance in the Indian context reviewed the performance of unit Trust of India (UTI), Private and money market mutual funds.

Sadhak (2003) in his book suggested several improvements in the strategic and operational practices of mutual funds are suggested keeping in mind the mechanisms used by fund managers in developed economies.

Sondhi (2004) studied the financial performance evaluation of equity oriented mutual funds on the basis of type size and ownership of mutual funds using the measure of absolute rate of return, comparison with benchmark (BSE 100) and the return on 364 days T-Bills and risk adjusted performance measure (Sharpe, Treynor, Jensen's Alpha and Fama)

NEED OF THE STUDY

The literature review revealed that performance measures of mutual funds include rate of return, benchmark comparison risk adjusted returns (Treynor and Sharpe's indices) 'Stock Selectivity' abilities and market timing skills of the fund managers. The past studies on performance of Indian Mutual funds analysed the effect of factors such as type (open-ended or close ended) size, (small, medium and large) and the ownership pattern (private or public mutual funds) on their financial performance, Excepts (d) study of Gupta and Sehgal (1997) who have analyzed the performance of open-ended and closed funds. Though many empricial studies linking investment styles and performance of mutual funds were conducted in USA and other developed countries, but till date such an empiricial study in the context of Indian mutual funds are yet to be undertaken. Hence, the study is an attempt in this direction to unearth the nature of relationship that exists between investment styles and performance of Indian mutual funds.

OBJECTIVES OF THE STUDY

The objective of the present study to evaluate the performance of selected diversified equity mutual funds in comparison to its industry average, benchmark return. It also examines the volatility, return per unit, the fund sensitivity to the market using various tools of portfolio measures.

RESEARCH METHODOLOGY

Data Collection

This study is based on secondary data. The relevant sources of Secondary Data are books, journals, magazines, newspapers, brochures and websites of selected mutual funds. All the relevant data is being collected from mutualfundindia.com as on 31st April, 2010. The

present study compares 15 open ended equity diversified funds launched by public sector, private sector, and foreign mutual fund players in India. The schemes have been selected using deliberate sampling method subject to the criteria mentioned as under :

a) Corpus size >250 crores.

b) Returns of 5 years.

c) Top 15 schemes ranked on the basis of 5 years compounded annualized returns.

TOOLS OF ANALYSIS

For the purpose of analysis, appropriate statistical tools have been used. To analyze the data all the appropriate techniques, i.e., arithmetic mean, standard deviation, correlation, Beta, treynor ratio, Sharpe ratio, Fema, Alpha have been applied.

RESULTS AND FINDINGS

Part - 1 Analysis of performance of the selected Diversified Fund Growth Schemes in comparison to Industry Average.

This part analyses the performance of the selected Diversified Fund Growth schemes in comparison to Industry average performance of selected similar category funds.

TABLE 1.1

PERFORMANCE OF SELECTED DIVERSIFIED FUND IN COMPARISON TO THE INDUSTRY AVERAGE OF SELECTED SIMILAR CATEGORY FUND

Sr	Scheme Name	6mth	1yr	3yrs	5yrs	SI
1	HDFC Top 200 – Growth	13.11	74.38	18.87	30.11	24.16
2	HDFC Equity Fund - Growth	16.98	92.04	17.37	29.96	23.11
3	ICICI Prudential Dynamic Plan – Growth	18.18	70.13	12.95	29.90	35.23
4	Reliance Growth – Growth	21.66	88.15	18.43	29.72	29.93
5	SBI Magnum Multiplier Plus 93 - Growth	17.64	72.03	13.04	29.34	13.24
6	DSP Blackrock Top 100 Equity Fund - Growth	10.87	58.23	15.57	29.29	36.31
7	SBI Magnum Sector Umbrella - Contra - Growth	13.11	64.82	13.16	28.85	19.36
8	Sundaram BNP Paribas Select Midcap - Growth	18.13	109.33	15.25	28.82	40.16

Sr	Scheme Name	6mth	1yr	3yrs	5yrs	SI
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	14.85	72.85	16.28	28.55	31.54
10	SBI Magnum Equity Fund - Growth	14.9	67.93	12.41	27.73	11.65
11	DSP BlackRock India Tiger Fund - Growth	14.75	60.72	10.71	27.88	29.61
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	18.42	113.46	18.7	27.20	36.91
13	Tata Equity P/E Fund - Growth	15.99	88.02	18.96	27.15	29.24
14	DWS Investment Opportunity Fund - Reg - Growth	17.84	69.18	17.74	27.14	23.79
15	ICICI Prudential Discovery Fund - Growth	26.57	124.4	19.26	27.02	29.99
	Average performance of similar category funds	17.74	84.38	16.12	403.44	

Source : Compiled from mutalfindindia.com

Table 1.1 depicts the performance of selected Diversified Fund schemes for the period for the last 6 months, 1 year, 3 years, 5 years and since inception. It also depicts the average industry returns and average performance of similar category funds. The analysis of table 1.1 clearly reveals that compounded annualized percentage return since inception ranges between 40.16 is depicted by Sundram BNP Paribas Select Midcap - Growth. It is followed by Birla Sun Life Midcap Fund - Plan A - Growth, DSP Blackrock Top 10 Equity Fund - Growth, ICICI Prudential Dynamic Plan - Growth with 36.91 percent, 36.31 percent and 35.23 percent return respectively. SBI Magnum Equity Fund - Growth has given minimum compounded annualized percentage return of 11.65 percent.

It is observed that compounded annualized percentage return over the period of last 5 years varies between 30.11 percent and 27.02 percent. The highest return of 30.11 percent is registered by HDFC Top 20 - Growth. It is followed by HDFC Equity Fund Growth, ICICI Prudential Dynamic Plan - Growth, Reliance Growth - Growth with 29.96 percent, 29.90 percent and 29.72 percent returns respectively. ICICI Prudential Discovery Fund - Growth has given minimum compounded annualized percentage returns of 27.02 percent. The compounded annualized returns over the period of last three years range between 19.26 percent and 10.71 percent. The highest return of 19.26 percent is shown by ICICI Prudential Discovery Fund - Growth. It is followed by Tata Equity P/E Fund - Growth, HDFC Top 200 - Growth, Reliance Growth - Growth with 18.96 percent, 18.87 percent and 18.43 percent

returns respectively. DSP Blackrock India Tiger Fund - Growth has given the maximum compounded annualized percentage return of 10.71 percent.

The table further reveals that the compounded annualized percentage return over the period of last one year ranges between 124.4 percent and 58.23 percent. The highest returns of 124.4 percent are given by ICICI Prudential Discovery Fund - Growth. It is followed by Birla Sun Life Midcap - Growth with 113.46 percent, 109.3 percent and 92.04 percent respectively. DSP Blackrock Top 100 Equity Fund - Growth has given the minimum compounded annualized percentage returns of 58.23 percent.

The table 1.1 also depicts that the percentage return over the period of last 6 months ranges between 26.57 percent and 13.1 percent. The Highest return of 26.57 percent is given by ICICI Prudential Discovery Fund - Growth. It is followed by Reliance Growth - Growth, Birla Sun Life Midcap - Fund - Plan A - Growth, ICICI Prudential Dynamic Plan - Growth with 21.66 percent 18.42 percent and 18.18 percent respectively. HDFC Top 200 - Growth has given the minimum return of 13.11 percent.

All the selected schemes under performed the Industry Index over the period of 5 years out of 15 schemes 6 schemes i.e. ICICI Prudential Dynamic Plan - Growth, SBI Magnum Multiplier Plus 93 - Growth, SBI Magnum Sector Umbrella Contra - Growth, Sundaram BNP Paribas select - Midcap - Growth, SBI Magnum Equity Fund - Growth, DSP Blackrock India Tiger Fund - Growth have under performed the Industry Index over the last three years. Out of 15 schemes 6 schemes is HDFC Equity Fund - Growth, Reliance Growth - Growth, Sundaram BNP Paribas select - Midcap Growth, Birla Sun Life Midcap - Fund - Plan A - Growth, Tata Equity P/E Fund - Growth, ICICI Prudential Discovery Fund - Growth have out performed the Industry Index over the last one year. Only 6 schemes ICICI Prudential Dynamic Plan - Growth, Reliance Growth - Growth, Sundaram BNP Paribas select Midcap - Growth, Birla Sun Life Midcap Fund - Plan A - Growth, DWS Investment opportunity Fund - Reg - Growth, ICICI Prudential Discovery Fund - Growth have over performed the Industry Index over the last six months.

ANALYSIS OF PERFORMANCE IN COMPARISON TO BENCHMARK

Benchmark comparison is important performance measure as it indicates to what extent the fund managers were able to produce better performance of managed portfolio compound to the market or index portfolios. This part analyses the performance of the selected Diversified Fund Growth schemes in comparison to the Industry average

performance of selected similar category funds and in comparison the benchmark and analysis of volatility and return per unit.

Table 1.2 depicts the performance of selected Diversified Fund schemes for the period of last 6 months, 1 year, 3 years, 5 years and since inception. It also depicts the average industry return and average performance of similar category Funds and in comparison the benchmark and analysis of volatility and return per unit. The analysis of table 1.2 clearly reveals that compounded annualized percentage return since inception ranges between 40.16 percent and 11.65 percent. The highest since inception return of 40.16 is depicted by Sundaram BNP Paribas Select Midcap - Growth. It is followed by Birla Sun Life Midcap Fund - Plan - A Growth, DSP Blackrock Top 100 Equity Fund - Growth, ICII Prudential Dynamic Plan - Growth with 36.91 percent, 36.31 percent and 35.23 percent return respectively. SBI Magnum Equity Fund - Growth has given minimum compounded annualized percentage return of 11.65 percent. It is observed that compounded annualized percentage return over the period of last 5 years varies between 30.11 percent and 27.02 percent. The highest return of 30.11 percent is registered by HDFC Top 20 - Growth. It is followed by HDFC Equity Fund Growth, ICICI Prudential Dynamic Plan - Growth, Reliance Growth - Growth with 29.96 percent, 29.90 percent and 29.72 percent returns respectively. ICICI Prudential Discovery Fund - Growth has given minimum compounded annualized percentage returns of 27.02 percent. The compounded annualized returns over the period of last three years range between 19.26 percent and 10.71 percent. The highest return of 19.26 percent is shown by ICICI Prudential Discovery Fund - Growth. It is followed by Tata Equity P/E Fund - Growth, HDFC Top 200 - Growth, Reliance Growth - Growth with 18.96 percent, 18.87 percent and 18.43 percent returns respectively. DSP Blackrock India Tiger Fund - Growth has given the maximum compounded annualized percentage return of 10.71 percent.

TABLE 1.2:

PERFORMANCE OF SELECTED DIVERSIFIED FUND
IN COMPARISON TO BENCHMARK

Sr	Scheme Name	6mth	1yr	3yrs	5yrs	SI
1	HDFC Top 200 - Growth	13.11	74.38	18.87	30.11	24.16
2	HDFC Equity Fund - Growth	16.98	92.04	17.37	29.96	23.11
3	ICICI Prudential Dynamic Plan - Growth	18.18	70.13	12.95	29.90	35.23

Sr	Scheme Name	6mth	1yr	3yrs	5yrs	SI
4	Reliance Growth - Growth	21.66	88.15	18.43	29.72	29.93
5	SBI Magnum Multiplier Plus 93 - Growth	17.64	72.03	13.04	29.34	13.24
6	DSP Blackrock Top 100 Equity Fund - Growth	10.87	58.23	15.57	29.29	36.31
7	SBI Magnum Sector Umbrella - Contra - Growth	13.11	64.82	13.16	28.85	19.36
8	Sundaram BNP Paribas Select Midcap - Growth	18.13	109.33	15.25	28.82	40.16
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	14.85	72.85	16.28	28.55	31.54
10	SBI Magnum Equity Fund - Growth	14.9	67.93	12.41	27.73	11.65
11	DSP BlackRock India Tiger Fund - Growth	14.75	60.72	10.71	27.88	29.61
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	18.42	113.46	18.7	27.20	36.91
13	Tata Equity P/E Fund - Growth	15.99	88.02	18.96	27.15	29.24
14	DWS Investment Opportunity Fund - Reg – Growth	17.84	69.18	17.74	27.14	23.79
15	ICICI Prudential Discovery Fund - Growth	26.57	124.4	19.26	27.02	29.99
	BSE100	12.55	61.39	10.06	27.18	

Source : Compiled from mutalfindindia.com

The table further reveals that the compounded annualized percentage return over the period of last one year ranges between 124.4 percent and 58.23 percent. The table 1.2 also depicts that the percentage return over the period of last 6 months ranges between 26.57 percent is given by ICICI Prudential Discovery Fund - Growth. It is followed by Reliance Growth - Growth, Birla Sun Life Midcap - Fund - Plan A - Growth, ICICI Prudential Dynamic Plan - Growth with 21.66 percent, 18.42 percent and 18.18 percent respectively. HDFC Top 200 - Growth has given the minimum return of 13.11 percent. All the selected schemes have outperformed the BSE 100 Index over the period of last 5 years only 3 schemes i.e. Tata Equity P/E Fund - Growth, DWS Investment opportunity Fund Reg - Growth, ICICI Prudential Discovery Fund - Growth have under performed the Benchmark indices over the last five years. Out of 15 schemes only 2 schemes i.e. DSP Blackrock Top 10 Equity Fund - Growth and DSP Blackrock India Tiger Fund - Growth have underperformed the Benchmark

indices over the last one year. All the 15 schemes have underperformed the BSE 100 index over the last 6 months.

ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK

Portfolio performance without reckoning the risk exposure do not provide fair and true picture. Various studies in the past have not only Examined performance in terms of rate of return but also evaluated portfolio performance in terms of risk adjusted rate of return (Treynor and Sharpe's Indices).

Standard Deviation

Standard deviation of the selected Diversified Equity Mutual Funds - Growth is depicted in the table 1.3. Analysis of table 1.3 clearly reveals that DSP Blackrock under performed all the schemes with 4.17 standard deviation. It indicates the relatively low volatility of the scheme and low return per unit of risk. SBI Magnum Equity Fund - Growth has outperformed all the schemes with standard deviation of 5.48. It indicates the relatively High volatility of the scheme and high return per unit of risk.

TABLE 1.3:

ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON STANDARD DEVIATION

Sr	Scheme Name	Standard deviation
1	HDFC Top 200 - Growth	5.23
2	HDFC Equity Fund - Growth	5.28
3	ICICI Prudential Dynamic Plan - Growth	4.74
4	Reliance Growth - Growth	4.70
5	SBI Magnum Multiplier Plus 93 - Growth	4.67
6	DSP Blackrock Top 100 Equity Fund - Growth	4.17
7	SBI Magnum Sector Umbrella - Contra - Growth	5.10
8	Sundaram BNP Paribas Select Midcap - Growth	5.05
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	4.99
10	SBI Magnum Equity Fund - Growth	5.48
11	DSP BlackRock India Tiger Fund - Growth	5.47

Sr	Scheme Name	Standard deviation
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	4.91
13	Tata Equity P/E Fund - Growth	4.88
14	DWS Investment Opportunity Fund - Reg - Growth	5.05
15	ICICI Prudential Discovery Fund - Growth	5.13

Source : Compiled from mutalfindindia.com

Sharpe

Sharpe index measures the performance of Funds on the risk - adjusted basis. The Sharpe ratio of the selected diversified Equity Mutual Funds - Growth are depicted in the table 1.4. Analysis of Table 1.4 clearly reveals that Sundaram BNP Paribas select Midcap - Growth has clearly unperformed all the schemes with -0.17 Sharpe ratio. It indicates the relatively low returns per unit risk are less efficiently and effectively managed schemes and HDFC Top 200 - Growth has clearly out performed all the schemes with -0.07 Sharpe ratio. It indicates the relatively high returns per unit risk are more efficiently and effectively managed schemes.

TABLE 1.4:
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON SHARPE

Sr	Scheme Name	Sharpe
1	HDFC Top 200 - Growth	-0.07
2	HDFC Equity Fund - Growth	-0.08
3	ICICI Prudential Dynamic Plan - Growth	-0.10
4	Reliance Growth - Growth	-.014
5	SBI Magnum Multiplier Plus 93 - Growth	-0.13
6	DSP Blackrock Top 100 Equity Fund - Growth	-0.10
7	SBI Magnum Sector Umbrella - Contra - Growth	-0.11
8	Sundaram BNP Paribas Select Midcap - Growth	-0.17
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	-0.09
10	SBI Magnum Equity Fund - Growth	-0.10

11	DSP BlackRock India Tiger Fund - Growth	-0.11
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	-0.17
13	Tata Equity P/E Fund - Growth	-0.15
14	DWS Investment Opportunity Fund - Reg - Growth	-0.14
15	ICICI Prudential Discovery Fund - Growth	-0.11

Source : Compiled from mutualfundindia.com

Beta

The beta of the selected diversified Equity Mutual Fund - Growth are depicted in the Table 1.5. Systematic risk is measured in term of beta which indicates the sensitivity of a schemes return in relation to market return. Table 1.5 reveals that SBI Magnum Equity Fund-Growth has the highest Beta with 0.92. It indicates the sensitivity of a schemes return in relation to market return. Here the beta is less than 1 it is considered to be defensive DSP Blackrock Top 10 Equity Fund - Growth has the lowest beta with 0.70. It indicates the sensitivity of a schemes return in relation to market return. Here the beta is less than 1 it is also considered to be defensive.

TABLE 1.5

ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON BETA

Sr.	Scheme Name	Beta
1	HDFC Top 200 - Growth	0.88
2	HDFC Equity Fund - Growth	0.87
3	ICICI Prudential Dynamic Plan - Growth	0.80
4	Reliance Growth - Growth	0.78
5	SBI Magnum Multiplier Plus 93 - Growth	0.78
6	DSP Blackrock Top 100 Equity Fund - Growth	0.70
7	SBI Magnum Sector Umbrella - Contra - Growth	0.87
8	Sundaram BNP Paribas Select Midcap - Growth	0.79
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	0.84
10	SBI Magnum Equity Fund - Growth	0.92

11	DSP BlackRock India Tiger Fund - Growth	0.93
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	0.77
13	Tata Equity P/E Fund - Growth	0.80
14	DWS Investment Opportunity Fund - Reg - Growth	0.85
15	ICICI Prudential Discovery Fund - Growth	0.82

Source : Compiled from mutualfundindia.com

Fama

The fama of the Selected Diversified Equity Mutual Fund - Growth are depicted in table 1.6. Fama suggested that overall portfolio performance due to stock selection ability (realized return minus expected portfolio return) of the fund manager and second the performance (Expected portfolio return risk free return) due to higher portfolio risk assumed by the fund manager. Analysis of table 1.6 the HDFC Top 200 - Growth has given the highest fama ratio of 0.32. It indicates higher risk with higher return and Sundaram BNP Paribas Select Mid-Cap Growth has given the lowest fama ratio of -0.20. It indicates the low risk with low return.

TABLE 1.6

ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON FAMA

Sr	Scheme Name	Fama
1	HDFC Top 200 - Growth	0.32
2	HDFC Equity Fund - Growth	0.22
3	ICICI Prudential Dynamic Plan - Growth	0.11
4	Reliance Growth - Growth	-0.09
5	SBI Magnum Multiplier Plus 93 - Growth	-0.03
6	DSP Blackrock Top 100 Equity Fund - Growth	0.12
7	SBI Magnum Sector Umbrella - Contra - Growth	0.10
8	Sundaram BNP Paribas Select Midcap - Growth	-0.20
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	0.16
10	SBI Magnum Equity Fund - Growth	0.13

Sr	Scheme Name	Fama
11	DSP BlackRock India Tiger Fund - Growth	0.07
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	-0.19
13	Tata Equity P/E Fund - Growth	-0.04
14	DWS Investment Opportunity Fund - Reg - Growth	-0.09
15	ICICI Prudential Discovery Fund - Growth	0.06

Source : Compiled from mutualfundindia.com

Correlation

The correlation of Selected Diversified Equity Mutual Fund - Growth is depicted in the Table 1.7. Correlation is used in advance portfolio management. Correlation is a measure of how two securities move in relation to each other. Analysis of Table 1.7 clearly reveals that DSP Blackrock India Tiger Fund - Growth is highest degree of correlation 0.92 and DSP Blackrock Top 100 Equity Fund - Growth is lowest degree of correlation 0.70.

TABLE 1.7

ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON CORRELATION

Sr	Scheme Name	Correlation
1	HDFC Top 200 - Growth	0.87
2	HDFC Equity Fund - Growth	0.86
3	ICICI Prudential Dynamic Plan - Growth	0.79
4	Reliance Growth - Growth	0.77
5	SBI Magnum Multiplier Plus 93 - Growth	0.76
6	DSP Blackrock Top 100 Equity Fund - Growth	0.70
7	SBI Magnum Sector Umbrella - Contra - Growth	0.85
8	Sundaram BNP Paribas Select Midcap - Growth	0.78
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	0.84
10	SBI Magnum Equity Fund - Growth	0.91

11	DSP BlackRock India Tiger Fund - Growth	0.92
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	0.76
13	Tata Equity P/E Fund - Growth	0.79
14	DWS Investment Opportunity Fund - Reg - Growth	0.84
15	ICICI Prudential Discovery Fund - Growth	0.81

Source : Compiled from mutualfundindia.com

Treynor

Treynor ratio of Selected Diversified Equity Mutual Fund Growth is depicted in the table 1.8.

The index is also termed as reward to volatility ratio. Analysis of Table 1.8 clearly reveals that HDFC Top 200 - Growth has given highest Treynor ratio of -0.39. It indicates that better performance of fund and Birla Sun Life Midcap Fund - Plan A Growth has given lowest treynor ratio of -1.09. It indicates the lowest performance of fund.

TABLE 1.8:
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON TRENYOR

Sr	Scheme Name	Treynor
1	HDFC Top 200 - Growth	-0.39
2	HDFC Equity Fund - Growth	-0.51
3	ICICI Prudential Dynamic Plan - Growth	-0.61
4	Reliance Growth - Growth	-0.87
5	SBI Magnum Multiplier Plus 93 - Growth	-.080
6	DSP Blackrock Top 100 Equity Fund - Growth	-0.58
7	SBI Magnum Sector Umbrella - Contra - Growth	-0.63
8	Sundaram BNP Paribas Select Midcap - Growth	-1.04
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	-0.56
10	SBI Magnum Equity Fund - Growth	-0.61
11	DSP BlackRock India Tiger Fund - Growth	-0.67
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	-1.06

13	Tata Equity P/E Fund - Growth	-0.83
14	DWS Investment Opportunity Fund - Reg - Growth	-0.86
15	ICICI Prudential Discovery Fund - Growth	-0.71

Source : Compiled from mutalfundindia.com

Mean :

The mean of the Selected Diversified Equity Mutual Fund - Growth are depicted in the table 1.9. The simple mathematical average of a set of two or more numbers is called mean. Table 1.9 depicts the value of mean return of schemes selected for the study. The result indicates that HDFC Top 200 - Growth is higher return as compared to other schemes and market average return is -0.24 and Sundaram BNP Paribas select Midcap - Growth lower return as compared to other schemes is -0.73.

TABLE 1.9

ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON MEAN

Sr	Scheme Name	Mean
1	HDFC Top 200 - Growth	-0.24
2	HDFC Equity Fund - Growth	-0.34
3	ICICI Prudential Dynamic Plan - Growth	-0.38
4	Reliance Growth - Growth	-0.57
5	SBI Magnum Multiplier Plus 93 - Growth	-0.52
6	DSP Blackrock Top 100 Equity Fund - Growth	-0.30
7	SBI Magnum Sector Umbrella - Contra - Growth	-0.44
8	Sundaram BNP Paribas Select Midcap - Growth	-0.73
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	-0.37
10	SBI Magnum Equity Fund - Growth	-0.46
11	DSP BlackRock India Tiger Fund - Growth	-0.51
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	-0.71
13	Tata Equity P/E Fund - Growth	-0.55

14	DWS Investment Opportunity Fund - Reg - Growth	-0.62
15	ICICI Prudential Discovery Fund - Growth	-0.48

Source : Compiled from mutualfundindia.com

Alpha :

The Alpha of the Selected Diversified Equity Mutual Fund - Growth are depicted in the table 1.10. The size of the alpha exhibits the stock's unsystematic returns and its average return independence of market return if the fund produces the expected return at he level of risk assumed, the fund would have an alpha equal to zero. Analysis of table 1.10 reveals that all the funds have outperformed its benchmark index by 1%. A positive Alpha indicates that he manger produced return greater than expected for the risk taken.

TABLE 1.10
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON ALPHA

Sr	Scheme Name	Alpha
1	HDFC Top 200 - Growth	5.23
2	HDFC Equity Fund - Growth	5.28
3	ICICI Prudential Dynamic Plan - Growth	4.74
4	Reliance Growth - Growth	4.70
5	SBI Magnum Multiplier Plus 93 - Growth	4.67
6	DSP Blackrock Top 100 Equity Fund - Growth	4.17
7	SBI Magnum Sector Umbrella - Contra - Growth	5.10
8	Sundaram BNP Paribas Select Midcap - Growth	5.05
9	Birla Sun Life Frontline Equity Fund - Plan A - Growth	4.99
10	SBI Magnum Equity Fund - Growth	5.48
11	DSP BlackRock India Tiger Fund - Growth	5.47
12	Birla Sun Life Mid Cap Fund - Plan A - Growth	4.91
13	Tata Equity P/E Fund - Growth	4.88
14	DWS Investment Opportunity Fund - Reg - Growth	5.05
15	ICICI Prudential Discovery Fund - Growth	5.13

Source : Compiled from valueresearchonline.com

Conclusion

In the contemporary world, many fast mushrooming financial institutions are, offering new products and services to the investors. They entice them to invest their funds by providing incentives and facilities in term of flexible incest their fund by providing incentives and facilities in terms of flexible investment options and withdrawal plan. Mutual fund industry has grown up in leaps and bounds particularly during the two decades of the 20th century. Moreover, the entry of the private fund has injected a sense of competition ad the industry has been witnessing a structural transformation from a public sector monopoly to monopolistic industry. A proper evaluation measure will remove the confusion and help investors to decide the level of investment in various mutual fund schemes, about their financial performance over a period of time and the risk associated with heir investment, so as to avoid loss and maximize the return.

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