PERFORMANCE EVALUATION OF EQUITY ORIENTED LARGE CAP MUTUAL FUNDS IN INDIA (A STUDY WITH REFERENCE TO SELECT ASSET MANAGEMENT COMPANIES)

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ABSTRACT

Investors with their saving can participate in investment game either directly or indirectly. To say in more specific, investors with huge savings at their disposal and capabilities invest in their own capacity can direct or indirect avenues of investment. In this context, mutual funds comes to the rescue of those investors who want channelise their savings indirectly. Over a period of time, mutual fund emerged as a gate-way for small investors to enter into big companies with their small investment. To do so, the present study has examined five Asset Management Companies (AMC's) are found operating equity oriented large cap schemes. Hence, researcher has purposively chosen one scheme from each AMC's over a period of 06 years from 2007-08 to 2012-12. Accordingly, funds have been ranked by taking into account their performance measures using standard deviation (σ), beta (β), co-efficient of determination (R^2), Treynor's, Sharpe, Jensen, Fama and M^2 measures. Thus, a fund that scored the highest of the average of the said parameters has been ranked as the best and same method has been adopted in ranking the rest of the funds.

Keywords: Large cap funds, AMC, Standard Deviation, Beta, Treynor, Sharpe.

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INTRODUCTION

Generally, human beings first concentrate on their basic needs food, cloth and shelter. After having been done so, they may endeavor to save money and make them to grow over a period of time to protect their future. Investors with their saving can participate in investment game either directly or indirectly. To say in more specific terms, investors with huge savings at their disposal and capabilities invest in their own capacity can choose direct avenues of investment and other investors with a small savings at their disposal and lack of competency to participate in direct investment may choose indirect vehicle of investment. In this context, mutual funds comes to the rescue of those investors who want channelise their savings indirectly. Over a period of time, mutual fund emerged as a gate-way for small investors to enter into big companies with their small investment. Just like a pair of shoe doesn't match to all legs like so a given scheme of mutual fund may not match exactly to the risk return requirements of all investors. Therefore, one cannot fail to notice that there are plethora of mutual fund schemes with distinct risk return characteristics with specified target investors. These schemes ranging from money market mutual funds to equity funds in terms of risk-return ladder. In India, mutual fund industry made a modest beginning in 1963 with the formation of Unit Trust of India (UTI). As on 31st March 2013, there were 45 mutual fund companies with 1648 schemes and the average asset under management (AUM) is `.8,52,656 crores with a wide variety of options. Equity oriented schemes aim to provide capital appreciation over the medium to long-term. Growth schemes normally invest a major chunk of their corpus in equities. Such funds have comparatively high risks. Growth schemes are best option for investors who are at their prime earning stage and looking for long-term benefits. Retail investors are found in paradoxical situation as to the selection of right large cap mutual fund schemes due to large number of mutual fund companies and their schemes. However, performance evaluation of large cap mutual fund schemes essentially preludes exercise of right selection of equity oriented large cap scheme. On this hindsight, it is imperative to study the performance of mutual funds in terms of efficiency, return, risk and growth. Hence, it is proposed to study the performance evaluation of equity oriented large cap mutual fund schemes and also to offer certain suggestions in the light of findings.

REVIEW OF LITERATURE

Some of the important literatures are explained below accordingly;

Treynor and Mazuy (1966) have provided statistical evidence to conclude that investment managers of the 57 funds had successfully outguessed the market. The results suggested that

the returns for an investor in mutual fund completely depended on fluctuations in the general market. This is not to say that a skilful management cannot provide investors with a rate of return that is higher in both bad and good times than the one provided by market averages. **Meyer's (1977)** findings based on stochastic dominance model revalidated Sharpe's findings with the caution that these were relevant to the mutual fund performance in designated past period rather than implications for the future. **Sarkar (1991)** critically examined mutual fund performance evaluation methodology and pointed out that Sharpe and Treynor's performance measures rank mutual funds similarly on performance inspite of their differences in methodology. **Ansari (1993)** stressed the need for mutual funds to bring in innovative schemes suitable to the varied needs of the small savers in order to become predominant financial service institution in the country. **Gupta L.C. (1992)** in his book he has attempted a household survey of investors with the objective of identifying investors' preferences for mutual funds so as to help policy makers and mutual funds in designing mutual fund products and in shaping the mutual fund industry. **Chetna T. Parmar** in her doctoral thesis **(2010)** identified 44 five star rating monthly Equity diversified Balanced, Index and Income schemes suggested by Value research magazine. The study compares the Net Assets Value and Expense Ratio of funds over a period of two and half years from January 2005 to December 2009. Standard deviation, Beta, R_2, Sharpe ratio, EPS, Jenson, Fame and P/B ratio were used as proxy to measure the performance of funds. Researcher founds that risky schemes does not provided high returns even though it has high alpha and along with high beta.

STATEMENT OF THE PROBLEM

It is clear from the above review of literature that plenty of research work has been done on various schemes of mutual funds in India in general. A closure examination of review of literature has revealed that rare and scanty research work has been done on growth fund schemes. To say in specific terms, there are no studies conducted on performance evaluation of growth fund schemes in terms of **large cap funds**. Hence, there prevails a research gap, to fill this research gap the researchers has intended to undertake the topic entitled **"Performance Evaluation of Equity oriented Large Cap Mutual Funds in India (A study with reference Select Asset Management Companies)"**.

SCOPE OF THE STUDY

The present research work is confined to the performance evaluation of equity oriented large cap mutual fund schemes operated by five (05) Asset Management Companies (AMC's) during the study period. Performance evaluation of mutual fund in this study is confined to

two aspects namely, financial, and investment. In financial aspect, the performance of mutual fund is evaluated by juxtaposition of return earned by them and return earned by the concerned benchmark index. In investment aspect, performance of mutual fund is evaluated through performance measures using Treynor, Sharpe, Jenson, Eugene Fama and M². For evaluating the performance of select mutual growth funds, the period of the study is taken from 2007-08 to 2012-13 i.e., April-2007 to March-2013.

OBJECTIVES OF THE STUDY

Following are the major objectives set for the study.

➢   To evaluate the performance of select schemes in terms of Treynor's, Sharpe's, Jensen's differential return, Fama's decomposition measure and M-squared measure. It also involves ranking of each scheme by making comparison between performance measures with respective benchmark index.

➢   To offer feasible suggestions in the light of findings of the present study.

RESEARCH METHODOLOGY

Data Collection

The present study is purely based on the secondary sources of information. So, required information has been collected from the published records of Association of Mutual Funds of India (AMFI), Value Research website, respective Asset Management Companies (AMC's) websites, journals, magazines and CMIE, Prowess database.

Sampling:

According to the Value research journal and AMFI, there are 45 Asset Management Companies (AMC's) are in existence during the study period. Out of this, in the first stage, Five (05) mutual fund Asset Management Companies are purposively selected as these Asset Management Companies are found operating **equity oriented large cap** funds. At the second stage, these five Asset Management Companies are found operating **large cap** funds. In all, there are **11 large cap** schemes being floated by these five AMC's. Out of **11** schemes, researcher has purposively selected one (01) scheme from each AMC (5 Nos.) depending upon the existence of given scheme both at the beginning of the study period and at the end of the study period as well as, on the basis of availability of required secondary data. The details of the sampling shown in the Table-1. So, selected schemes are in bold letters.

Table-1: Sampling Design of Large Cap Schemes

Name of AMC	Large Cap Schemes	Launch Date	Total Schemes
Birla Sun Life Asset Management Company Ltd.	**Birla Sun Life Index**	**Sept-2002**	02
	Birla Sun Life Nifty ETF	Jul-2011	
DSP BlackRock Investment Managers Private Limited	DSPBR Top 100 Equity Inst.	Apr-2007	02
	DSPBR Top 100 Equity Reg.	**Feb-2003**	
ING Investment Mgmt. (India) Pvt. Ltd.	**ING Large Cap Equity**	**Feb-2004**	01
Kotak Mahindra Asset Management Company Limited	**Kotak 50**	**Dec-1998**	03
	Kotak Nifty ETF	Jan-2010	
	Kotak Sensex ETF	May-2008	
Tata Asset Management Limited	Tata Index Nifty Plan A	Feb-2003	03
	Tata Index Sensex B	**Feb-2003**	
	Tata Index Sensex Plan A	Feb-2003	

Source: Compiled.

Period of the study:

The present study aims to carry out the evaluation of chosen schemes during the period from 2007-08 to 2012-13 (i.e., 1st April-2007 to 31st March-2013). Hence, the study covers a period of 6 financial years. The rationale behind choosing six year duration as a period of study is to cover bearish phase, bullish phase and consolidation phase as exhibited by the values of respective benchmark indices used in the study.

Performance Evaluation Models used:

Performance evaluation models are Treynor's, Sharpe's, Jensen's differential return, Fama's decomposition measure and Modigliani risk-adjusted performance (M²) measures have been used to evaluate the performance of each chosen scheme and each scheme is ranked accordingly by comparing each performance measure with its respective benchmarked index. In order to make the evaluation, various models of evaluation make use of risk free rate of return. Hence, evaluation of mutual fund schemes requires selection of risk-free rate. For the present study, bank rate has been selected as risk free rate of return. During the study period,

bank rate has shown the variations, therefore, researcher has calculated time weighted bank rate for the study period. Thus, calculated bank rate is 6.58 percent for the study period.

Limitations of the study:

The present study is not free from following limitations.

➤ Returns consist of simple return, nominal return, compounded annual growth rate of return (CAGR), average rate of return, holding period return (HPR). But researcher has used Holding Period Return to calculate the fund return. Hence, results are subjective in character.

➤ Performance evaluation is based on selected performance evaluation models. Results revealed are subject to change if other parameters of evaluation such as Expense ratio, Information ratio, Portfolio turnover are used.

➤ Analysis and conclusion are drawn only on the basis of 5 AMC's. Hence, the results cannot be generalized.

➤ Inferences drawn on performance of select mutual fund schemes are valid only for the study period.

Analysis and Interpretation of Data:

The researcher has adopted the following framework for analysis and interpretation of data for select large cap funds:

1)   Return related analysis and interpretation

For the purpose of carrying out return related analysis and interpretations, researcher has calculated average Holding Period Return (HPR) for the study period and then compared with average return on the chosen benchmark index. If the average return is found to be greater than respective average return on the benchmark index, the said fund is to be considered as experiencing superior return than underlying index and vice-versa. This modus-oparendi of analysis and interpretation has been used in the present study.

Table No. 1: Showing values of Return for select schemes of Large Cap funds and benchmark values of returns

Year	Market Return (CNX Nifty)	Asset Management Companies and Schemes				
		BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	2.70	2.29	2.62	2.02	2.91	1.99
2008-09	-3.97	-3.09	-2.83	-3.91	-3.73	-3.13
2009-10	5.51	5.03	5.31	5.30	5.14	5.01
2010-11	0.63	1.01	0.73	0.66	0.55	1.02
2011-12	-0.26	-0.71	0.26	-0.09	-0.06	-0.61
2012-13	0.40	0.64	0.50	0.84	1.01	0.73
Average	**0.84**	**0.86**	**1.10**	**0.80**	**0.97**	**0.84**
Deviation		**0.02**	**0.26**	**-0.04**	**0.13**	**0.00**
Over / Under		**Over**	**Over**	**Under**	**Over**	**Equal**
Rank		**3**	**1**	**5**	**2**	**4**

Source: Compiled from NAV records of respective AMC's.

Table No. 1 reveals the year-wise information about the values of Holding Period Returns of select schemes as well as benchmark index and from these values respective averages are calculated for the study period. It is clear from the above table that DSPBR Top 100 Equity fund has performed well as compared to other schemes in this category (Excess return of 0.26 greater than any other schemes). This followed by Kotak 50 Growth fund which registered an average excess return of 0.13 and BSL Index fund which registered a marginal average excess return of 0.02. It is astonishing to know from the above table that average return of TATA Index fund Sensex-B is equal to its benchmark average return reflecting neither over performance nor under performance. The only fund which underperformed the benchmark index is ING Large cap equity fund. In the ultimate analysis, it can inferred that, four chosen Large cap category fund have succeeded in imitating the performance of underlined index whereas, ING Large cap equity fund failed to do so.

2)   **Risk related analysis and interpretation**

Risk refers to variability in returns, the variation in returns signifies risk associated with a

portfolio. Evaluation of managed portfolio can also be carried out on the basis of risk associated with a managed portfolio. Portfolio risk generally gets measured in terms of standard deviation, beta and R². Hence, for making evaluation of riskiness of select schemes these three variables are measured and suitable interpretation is drawn thereupon. The details are shown as below.

a)   Total Risk analysis and interpretation

b)   Systematic Risk analysis and interpretation

c)   Co-efficient of Determination (R²) analysis and interpretation

Table No. 2: Showing values of Standard Deviation for select schemes of Large Cap funds and benchmark values

Year	S.D. Market	Asset Management Companies and Schemes				
		BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	10.66	8.93	7.40	6.88	7.71	8.65
2008-09	8.10	10.73	6.20	7.88	9.01	10.51
2009-10	7.48	9.29	5.89	7.05	5.93	9.27
2010-11	3.78	5.73	3.27	3.56	3.58	5.71
2011-12	4.92	6.02	4.59	6.20	5.48	6.04
2012-13	3.28	4.26	3.04	2.62	2.74	4.29
Average	**6.37**	**7.49**	**5.07**	**5.70**	**5.74**	**7.41**
Deviation		**1.12**	**-1.30**	**-0.67**	**-0.63**	**1.04**
Riskiness		**More**	**Less**	**Less**	**Less**	**More**
Rank		**5**	**1**	**2**	**3**	**4**

Source: Compiled from NAV records of respective AMC's.

Table No. 2 provides summarized information about year-wise values of Standard deviation for select schemes as well as benchmark index. Further, it also provides the resultant average standard deviation of each scheme and responding benchmark index. A closure look at the table reveals that BSL Index fund has highest average value of standard deviation (7.49 percent) followed by TATA Index fund sensex-B (7.41 percent), Kotak 50 growth (5.74 percent), ING Large cap equity fund (5.70 percent) and DSPBR Top 100 equity fund (5.07

percent). Hence, BSL Index fund is having higher total volatility whereas DSPBR has least total volatility during the study period as measured by Standard Deviation. Hence, it is advisable for BSL Index Fund and TATA Index funds to think in terms of diversification of risk.

Table No. 3: Showing values of Systematic Risk (Beta) for select schemes of Large Cap funds and benchmark values

Year	Asset Management Companies and Schemes				
	BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	0.24	0.49	0.43	0.42	0.24
2008-09	0.96	0.75	0.97	0.59	0.95
2009-10	0.70	0.76	0.94	0.78	0.70
2010-11	1.02	0.86	0.93	0.92	1.02
2011-12	0.67	0.91	1.02	0.65	0.67
2012-13	0.81	0.88	0.62	0.76	0.81
Average	**0.73**	**0.78**	**0.82**	**0.69**	**0.73**
Rank	**3**	**2**	**1**	**5**	**4**

Source: Compiled from NAV records of respective AMC's.

Table No. 3 portrays the information about Beta values of select schemes belonging to Large Cap category for the study period. It is generally known fact that, higher the value of beta higher will be responsiveness of a given fund to the changes in the market index and vice-versa. A fund having higher beta may do well in a general up-trend whereas may not do so during the down-trend whereas, a fund with lower beta may not exhibit attractive performance but it may save investors from extreme loss during the down-trend. A beta value of 1.0 of a fund implies neither over responsiveness nor under responsiveness to the changes in the market. A beta value of greater than 1.0 shows more than proportionate responsiveness to the changes in the market, whereas a beta of less than 1.0 shows less than proportionate responsiveness. It is clear from the above table that ING Large cap equity fund has highest beta value of 0.82 showing moderately high responsiveness whereas Kotak-50 Growth fund has lowest beta value of 0.69 having less responsiveness to the changes in the market; BSL Index fund and TATA Index fund Sensex-B have equal responsiveness as the beta value of

the both is 0.73, while DSPBR Top 100 equity fund has a beta value of 0.78. Hence, all the schemes having beta values of less than 1.0, perhaps, it can be inferred that, all portfolios are defensive portfolios.

Table No. 4: Showing values of Co-efficient of Determination (R^2) for select schemes of Large Cap funds and benchmark values

Year	Asset Management Companies and Schemes				
	BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	0.29	0.49	0.44	0.32	0.08
2008-09	0.53	0.96	1.00	0.28	0.55
2009-10	0.32	0.92	1.00	0.96	0.32
2010-11	0.45	0.98	0.98	0.94	0.45
2011-12	0.30	0.96	0.66	0.35	0.30
2012-13	0.38	0.88	0.61	0.83	0.38
Average	**0.38**	**0.87**	**0.78**	**0.61**	**0.35**
Rank	**4**	**1**	**2**	**3**	**5**

Source: Compiled from NAV records of respective AMC's.

Table No. 4 crystallizes the information about R^2 values of select schemes relating to large cap category and the average value of R^2 of each scheme during the study period. The term R^2 value explains the percentage of returns explained by the index. Higher the value of R^2 higher will be the percentage of return explained by the index and lower will be unexplained return. Hence, higher value implies better diversified portfolio and lower value implies inadequately diversified portfolio. Taking this as a clue it can be inferred that, DSPBR Top 100 equity fund and ING Large cap equity fund can be considered as better diversified portfolios as their average values of R^2 is 0.87 and 0.78 respectively much higher than rest of the schemes during the study period, whereas TATA Index fund Sensex-B and BSL Index Fund can be considered as poorly diversified portfolios as their average value of R^2 is 0.35 and 0.38 respectively during the study period and Kotak 50 growth fund can be considered as moderately diversified with a value of R^2 is 0.61.

Table No. 5: Showing Returns versus Standard Deviations for Select Schemes of the Large Cap category Asset Management Companies

Name of Schemes	AR_p	SD_p	Deviation		Situation
			AR_p	SD_p	
BSL Index Fund	0.86	7.49	0.02	1.12	$AR_p > AR_m : SD_p > SD_m$
DSPBR Top 100 Equity	1.100	5.07	0.26	-1.30	$AR_p > AR_m : SD_p < SD_m$
ING Large Cap Eq. Fund	0.80	5.70	-0.04	-0.67	$AR_p < AR_m : SD_p < SD_m$
Kotak 50 Growth	0.970	5.74	0.13	-0.63	$AR_p > AR_m : SD_p < SD_m$
Tata Index Fund Sensex-B	0.84	7.41	0.00	1.04	$AR_p = AR_m : SD_p > SD_m$
Market	**0.84**	**6.37**			

Source: Compiled from NAV records of respective AMC's.

Table No. 5 reveals the information about average return of the portfolio and average standard deviation of the portfolio of select schemes belonging to Large cap category during the study period. It also provides information about the deviation between average return of the portfolio and average return on the market index as well as deviation between standard deviation of the portfolio as compared to the standard deviation of the market. The comparison between AR_p and AR_m, SD_p and SD_m taken together provides the clue about relative performance of sample schemes. Such a comparison is provided in the 'situation' column of the above table. DSPBR Top 100 equity fund and Kotak 50 growth funds are falling under the situation characterized as ($AR_p > AR_m$; $SD_P < SD_m$) respectively. This implies that the scheme provides higher return than the market with lower risk compared to market index. It implies that the performance of the scheme is favourable both on the grounds return and risk. Hence, the scheme is said to be in glowing situation; ING Large cap equity fund is falling under the situation characterized as ($AR_p < AR_m$; $SD_P < SD_m$). This implies that the performance of the scheme is unfavourable on the grounds return and favourable on the grounds of risk. Hence, the scheme is said to be experiencing worst situation. It is inevitable for respective scheme fund managers to consider return maximization with lesser risk. BSL Index fund is falling under the situation characterized as ($AR_p > AR_m$; $SD_P > SD_m$). Therefore, it implies that scheme return is higher than the market and risk is also higher than the market. This may enable no doubt investors to earn more, but the greater risk portioned may make them worry. It is better for the fund managers of BSL Index fund to initiate portfolio diversification strategies to bring down its total risk without sacrificing existing return rate; TATA Index funds performance can be captioned as ($AR_p =

AR_m ; $SD_P > SD_m$). It implies that the performance of the scheme is neutralized on the base return and risk is higher than the market index.   Hence the scheme is said to be experiencing worst situation. It is better for the fund managers of TATA Index fund to initiate portfolio diversification strategies to bring down its total risk with return maximization.

3)   Risk-adjusted return analysis and interpretation

Risk and return are two important variables to be used in the performance evaluation of portfolio. Portfolio evaluation is said to be incomplete, if such exercise is based only either on returns or on risk. A comprehensive evaluation is to be based on both return and risk. Therefore, risk-adjusted return analysis is said to be better way of evaluating portfolio performance. In this context, it is worthwhile to state that, in the lexicon of mutual fund performance evaluation, there are several risk-adjusted performance models evolved and implemented from time to time. Of the various models, researcher has chosen five important and widely used models for evaluating the performance of mutual funds. Those are;

a)	Treynor's Index	b)	Sharpe's Index
c)	Jenson's Index	d)	Eugene Fama's Decomposition Index
e)	Modigliani risk-adjusted performance measure (M²)		

Table No. 6: Treynor's Values for Select Schemes of the Large Cap category Asset Management Companies

Year	Treynor's Market Return	Asset Management Companies and Schemes				
		BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	-3.88	-17.88	-8.08	-10.60	-8.74	-19.13
2008-09	-10.55	-10.07	-12.55	-10.81	-17.47	-10.22
2009-10	-1.07	-2.21	-1.67	-1.36	-1.85	-2.24
2010-11	-5.95	-5.46	-6.80	-6.37	-6.55	-5.45
2011-12	-6.84	-10.88	-6.95	-6.54	-10.22	-10.73
2012-13	-6.18	-7.33	-6.91	-9.26	-7.33	-7.22
Average	**-5.75**	**-8.97**	**-7.16**	**-7.49**	**-8.69**	**-9.17**
Deviation		**-3.22**	**-1.41**	**-1.74**	**-2.94**	**-3.42**
Over / Under		**Under**	**Under**	**Under**	**Under**	**Under**
Rank		**4**	**1**	**2**	**3**	**5**

Source: Compiled from NAV records of respective AMC's.

Table No. 6 exhibit the year-wise information as well as average values of Treynor's Index both for selected schemes and the underlined benchmark index over the period of the study. It is surprising to notice from the above table that all schemes belonging to large cap category (AMC's) have on an average underperformed as compared to average performance of benchmark index. However, the extent of underperformance differs from scheme to scheme, wherein, Top 100 Equity Fund of DSPBR has shown lesser extent of underperformance (-1.41); followed by ING Large cap equity fund (-1.74); Kotak 50 Growth fund (-2.94); BSL Index fund (-3.22) and Tata Index fund sensex-B (-3.42) have arranged in the ascending order of their underperformance. Hence, all schemes have failed to generate sufficient excess return in commensurate with their systematic risk (β) as compared to benchmark index. It implies to some extent, fund managers have failed to incorporate appropriate changes into the composition of their portfolio to trim well their performance to the changing conditions in the market. Hence, there is an urgent need to update and upgrade portfolio composition of different schemes to make them to fair well. This is more so, in case of Tata, BSL, Kotak as their extent of underperformance is more greater as compared to other two (DSPBR and ING).

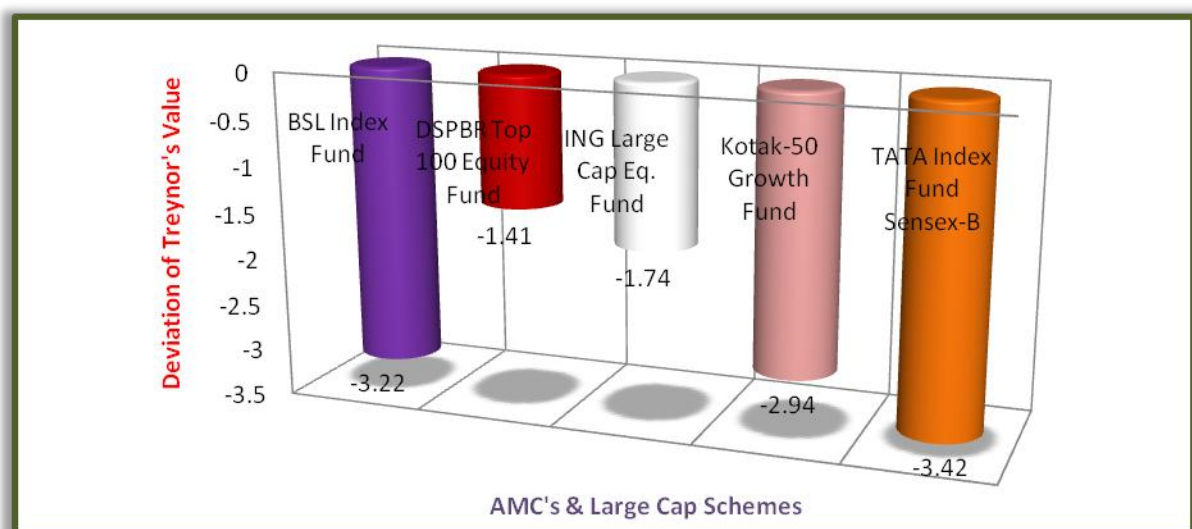**Graph No. 1: Treynor's Values for Select Schemes of the Large Cap category Asset Management Companies**

Table No. 7: Sharpe's Values for Select Schemes of the Large Cap category Asset Management Companies

Year	Sharpe's Market Return	Asset Management Companies and Schemes				
		BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	-0.36	-0.48	-0.54	-0.66	-0.48	-0.53
2008-09	-1.3	-0.90	-1.52	-1.33	-1.14	-0.92
2009-10	-0.14	-0.17	-0.22	-0.18	-0.24	-0.17
2010-11	-1.57	-0.97	-1.79	-1.66	-1.68	-0.97
2011-12	-1.39	-1.21	-1.38	-1.08	-1.21	-1.19
2012-13	-1.88	-1.39	-2.00	-2.19	-2.03	-1.36
Average	**-1.11**	**-0.85**	**-1.24**	**-1.18**	**-1.13**	**-0.86**
Deviation		0.26	-0.13	-0.07	-0.02	0.25
Over / Under		Over	Under	Under	Under	Over
Rank		1	5	4	3	2

Source: Compiled from NAV records of respective AMC's.

Table No. 7 crystallizes the year-wise information as well as average values of Sharpe's Index both for selected schemes and the underlined benchmark index over the period of the study. It is indicates from the above table that all schemes belonging to large cap category (AMC's) have shown on an average mash-up of over performance and underperformance as compared to average performance of benchmark index. However, the extent of performance differs from scheme to scheme, wherein, BSL Index Fund and Tata Index fund sensex-B have shown over performance (0.26 & 0.25) respectively; followed by Kotak 50 Growth has deviated marginally compared to benchmark index (-0.02), ING Large cap equity fund (-0.07); DSPBR top 100 equity fund (-0.13) have underperformed when compared with benchmark index; these have arranged in the ascending order of their performance. Hence, three schemes have failed to generate adequate excess return in commensurate with their total risk (σ) as compared to benchmark index and two schemes have performed better than the benchmark index. It implies to some extent, Kotak-50 growth fund, ING large cap equity fund and DSPBR Top 100 equity fund managers have failed to incorporate appropriate changes into the composition of their portfolio to trim well their performance to the changing conditions in the overall market and BSL Index fund & TATA Index fund sensex-B fund

managers have blockbuster to incorporate adequate changes into the composition of their portfolio. Hence, it is better for fund managers of Kotak 50 growth, ING large cap equity fund and DSPBR Top 100 equity fund to initiate well informed investment decisions to improve the quality of their funds performance.

Graph No. 2: Sharpe's Values for Select Schemes of the Large Cap category Asset Management Companies
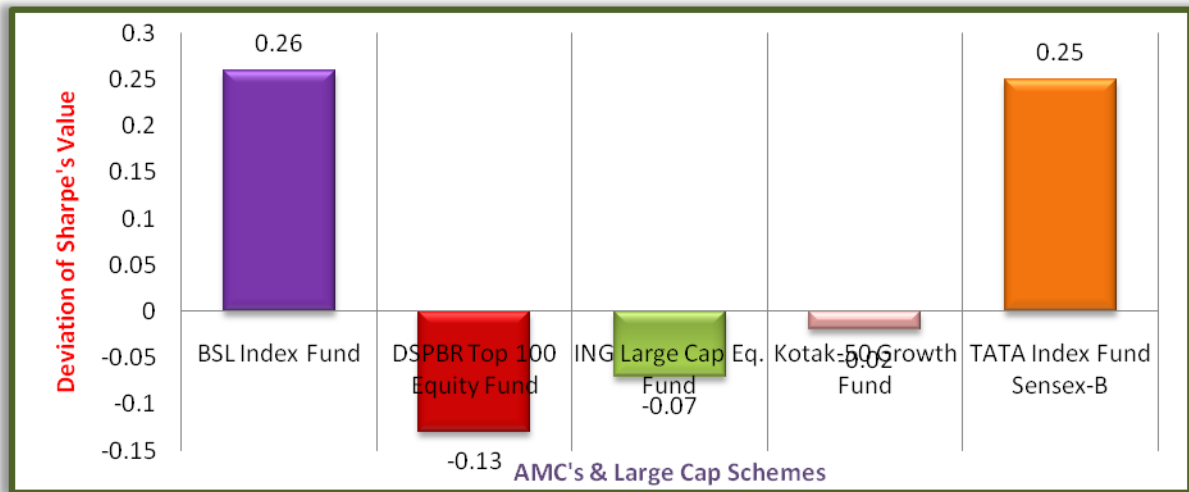

Table No. 8: Jensen's Values (α) for Select Schemes of the Large Cap category Asset Management Companies

Year	Asset Management Companies and Schemes				
	BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	-3.36	-2.06	-2.89	-2.04	-3.66
2008-09	0.46	-1.50	-0.26	-4.09	0.31
2009-10	-0.80	-0.46	-0.27	-0.61	-0.82
2010-11	0.50	-0.73	-0.39	-0.56	0.51
2011-12	-2.71	-0.10	0.31	-2.19	-2.61
2012-13	-0.93	-0.64	-1.91	-0.87	-0.84
Average	**-1.14**	**-0.92**	**-0.90**	**-1.73**	**-1.19**
Over / Under	**Under**	**Under**	**Under**	**Under**	**Under**
Rank	**3**	**2**	**1**	**5**	**4**

Source: Compiled from NAV records of respective AMC's.

Table No. 8 narrates the information about year wise values of alpha (α) for each select scheme as well as their average value during the study period. It is clear from the above table that all schemes have failed to generate return as per CAPM model given their beta values. Alpha is a index of management skills of fund managers. Though, all select schemes fund managers have experienced negative alphas the extent of negativity is least in case of ING Large cap equity fund (α=-0.90), followed by DSPBR Top 100 equity fund (α= -0.92); BSL Index Fund (α=-1.14); Tata Index fund Sensex-B (α=-1.19) and Kotak 50 Growth fund (α=-1.73). A positive alpha implies superior returns due to superior management skills and negative alpha implies inferior management skills as compared to the market. From the results shown in the above table, one can inferred that, on an average, all schemes have not fared well. Hence, one can say that, fund managers' managerial skills required for investment or disinvestment decision making is not upto the desired extent. This may be, either due to the lack of professional skills or due to the lack of experience skills. Hence, it is advisable for AMC's to think in terms of infusing professionally skilled and experienced individuals as fund managers of their respective schemes.

Graph No. 3: Jensen's Values (α) for Select Schemes of the Large Cap category Asset Management Companies
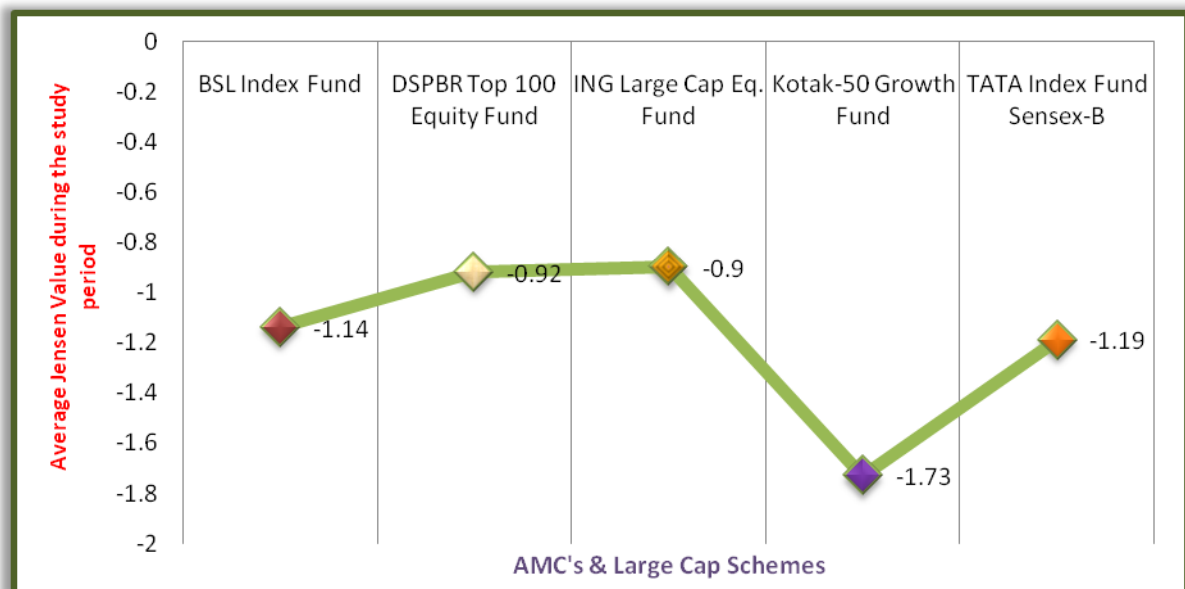
Table No. 9: Fama's Values of Net selectivity for Select Schemes of the Large Cap category Asset Management Companies

Year	Asset Management Companies and Schemes				
	BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	-1.04	-1.27	-2.06	-0.86	-1.44
2008-09	4.31	-1.33	-0.23	1.43	3.98
2009-10	-0.22	-0.43	-0.27	-0.59	-0.24
2010-11	3.45	-0.70	-0.32	-0.39	3.43
2011-12	1.08	0.06	1.95	0.98	1.21
2012-13	2.09	-0.35	-0.80	-0.41	2.23
Average	**1.61**	**-0.67**	**-0.29**	**0.03**	**1.53**
Over / Under	**Over**	**Under**	**Under**	**Over**	**Over**
Rank	**1**	**5**	**4**	**3**	**2**

Source: Compiled from NAV records of respective AMC's.

Table No. 9 summarizes the values of Fama's Net Selectivity of select schemes of the large cap category of AMC's during the study period as well as corresponding average values. The value of net selectivity indicates superior / inferior stock selection ability of respective fund managers. A positive value implies superior stock selection ability and negative value implies inferior stock selection ability of respective fund managers. Taking this as base, it can be inferred that BSL Index Fund and TATA Index fund sensex-B have highest positive value of net selectivity (1.61 and 1.53) respectively. It implies superior stock selection ability of fund managers of both the schemes. The performance of Kotak-50 Growth fund is at marginal deviation is meager positive net selectivity (0.03). The performance of this scheme can be considered more or less imitating the market portfolio. Whereas, performance of DSPBR Top 100 equity fund is at the low ebb with negative net selectivity of (-0.07) and the performance of ING Large cap equity fund is also having negative net selectivity of (-0.09). Hence, the fund managers of these two schemes requires to marshal and sharpen its stock selection ability by engaging themselves constantly and continuously in tracing out suitable candidature to be incorporated into their portfolio.

Graph No. 4: Fama's Values of Net selectivity for Select Schemes of the Large Cap category Asset Management Companies
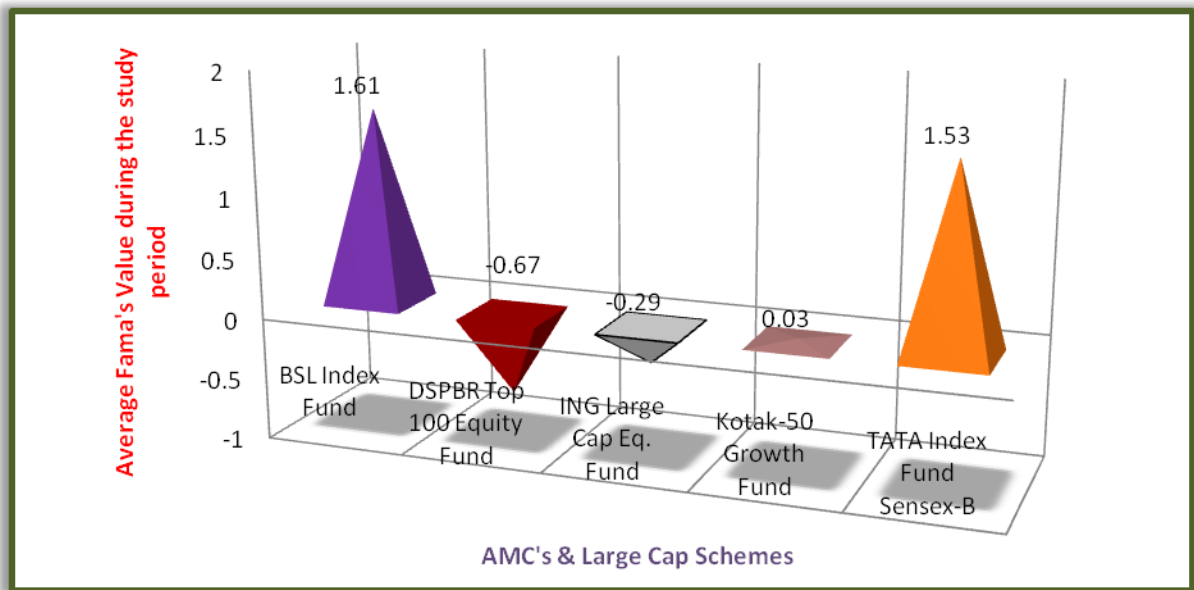

Table No. 10: Modigliani and Modigliani risk-adjusted performance (M^2) values for Select Schemes of the Large Cap category Asset Management Companies

Year	Market Return (R_m)	Asset Management Companies and Schemes				
		BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B
2007-08	2.70	1.46	0.88	-0.49	1.51	0.92
2008-09	-3.97	-0.72	-5.71	-4.20	-2.69	-0.90
2009-10	5.51	5.33	4.97	5.22	4.76	5.31
2010-11	0.63	2.91	-0.18	0.29	0.21	2.90
2011-12	-0.26	0.62	-0.19	1.29	0.62	0.72
2012-13	0.40	2.01	0.02	-0.61	-0.09	2.11
Average	**0.84**	**1.94**	**-0.04**	**0.25**	**0.72**	**1.84**
Deviation		**1.10**	**-0.88**	**-0.59**	**-0.12**	**1.00**
Over / Under		**Over**	**Under**	**Under**	**Under**	**Over**
Rank		**1**	**5**	**4**	**3**	**2**

Source: Compiled from NAV records of respective AMC's.

Table No. 10 demystify Modigliani and Modigliani risk-adjusted performance (M²) of select schemes of the large cap category of AMC's as well as corresponding average values during the study period.   The value of M² measures the performance of the portfolio on risk-adjusted basis. The value of M² is the difference between return on risk adjusted basis of a portfolio and return on the market portfolio. If, the return on risk-adjusted basis of a portfolio is greater than return on the market portfolio, it can be inferred that, given portfolio did well corresponding to the benchmark index and vice-versa. In brief, a positive value of M² indicates better performance on total risk adjusted basis; if the value of M² is negative it points out that, performance of the portfolio is poor as compared to the benchmark; and if, M²=0 it implies neither better nor poor performance of such portfolio as compared to the underlined benchmark index. Accordingly the performance of BSL Index fund and TATA Index Fund is better as their values of M² are (1.10 & 1.00) respectively. Whereas, the performance of DSPBR Top 100 equity fund and ING Large cap equity fund is said to be poor as their values of M² are negative (-0.88 & -0.59) respectively. Whereas, the performance of Kotak 50 Growth fund is at meager negative deviation of M² is (-0.12). Hence, fund managers of DSPBR Top 100 equity fund and ING Large cap equity fund are required to initiate return maximization strategies.

Graph No. 5: Modigliani and Modigliani risk-adjusted performance (M²) values for Select Schemes of the Large Cap category Asset Management Companies
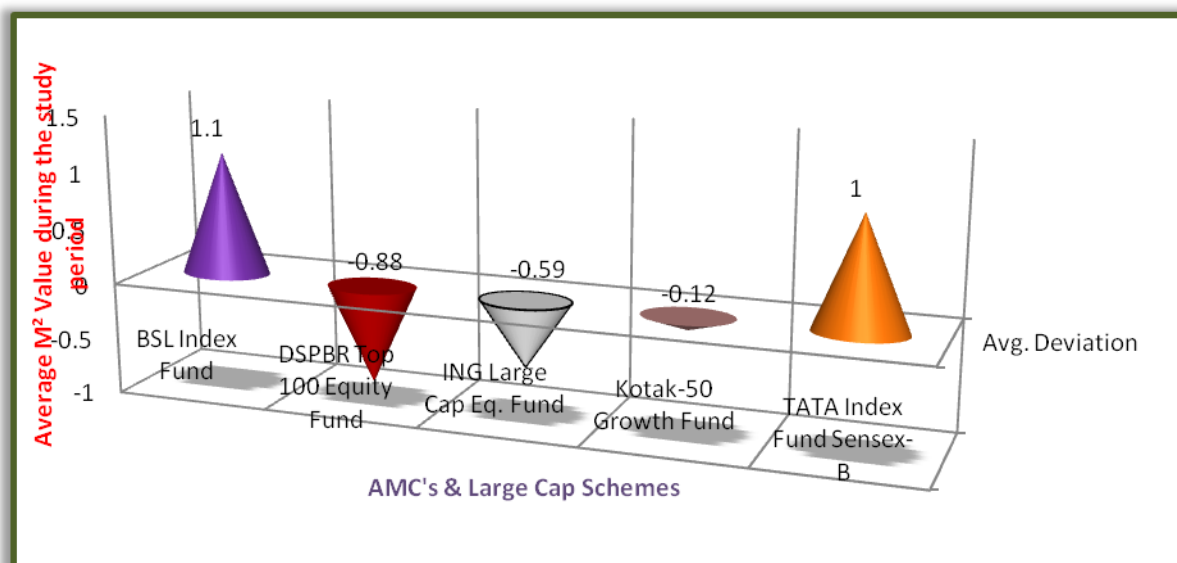
Table No. 11: Overall Ranking of all select Large Cap schemes

Models	RANKING					TOTAL
	BSL Index Fund	DSPBR Top 100 Equity Fund	ING Large Cap Eq. Fund	Kotak-50 Growth Fund	TATA Index Fund Sensex-B	
Treynor's	4	1	2	3	5	15
Sharpe's	1	5	4	3	2	15
Jensen's	3	2	1	5	4	15
Fama's	1	5	4	3	2	15
M-Squared	1	5	4	3	2	15
TOTAL	**10**	**18**	**15**	**17**	**15**	**75**
RANK	**1**	**5**	**2**	**4**	**2**	

Source: Compiled from NAV records of respective AMC's.

Table No. 11 denotes that as per overall ranking of risk-adjusted return models, of all the select schemes of large cap category, BSL Index fund has placed in first position (1st Rank), followed by ING Large cap equity fund and TATA Index fund sensex-B both have placed in the second position (2nd Rank) respectively. Whereas Kotak-50 growth fund and DSPBR Top 100 equity fund have placed in fourth and fifth position (4th & 5th Rank) respectively.

FINDINGS:

Following are the important findings of study:

Return related findings:

1.   It is found that return of ING Large cap fund was failed to imitate benchmark return while Tata Index fund sensex-B was imitating benchmark performance than that of its peers.

       Risk related findings:

2.   It is observed that DSPBR Top 100 equity fund exhibiting least volatility while BSL Index fund showing high volatility as measured by standard deviation (σ).

3.   It is cleared that the fund managers of DSPBR Top 100 equity funds follow conservative portfolio strategies as less risk and return than that of markets.

4.   It is found that all the funds are exhibiting the lower responsiveness against the market as measured by beta (β).

5.   It is inferred that DSPBR Top 100 Equity fund and ING Large cap equity fund can be considered as better diversified portfolios while TATA Index fund Sensex-B and BSL Index fund can be considered as poorly diversified portfolios during the study period.

Risk adjusted return related findings:

6. It is observed that as per overall ranking of risk-adjusted return models, of all the select schemes of large cap category, BSL Index fund has placed in first position (1st Rank), followed by ING Large cap equity fund and TATA Index fund sensex-B both have placed in the second position (2nd Rank), whereas Kotak-50 growth fund and DSPBR Top 100 equity fund have placed in fourth and fifth position (4th & 5th Rank) respectively. Hence, the performance of BSL Index Fund is considered as better when compared to its peers due to superior stock selection ability.

SUGGESTIONS

Based on the findings of the study, the following suggestions have been offered.

Return related suggestions:

1. During the study period, out of the select schemes of all the categories, ING fund managers have failed to generate fruitful return as compared to benchmark return. Hence, investors should pay heed while parking their funds in said AMC's select schemes.

    Risk related suggestions:

2. During the study period, out of the select schemes of all the categories, BSL fund managers have failed to diversify the risk. Hence, fund managers of BSL have to think in terms of diversification of risk.

3. During the study period, out of the select schemes of all the categories, ING is shows more responsiveness to the changing conditions in the market. Hence, investors should access the systematic risk before parking their funds.

4. During the study period, out of the select schemes of all the categories, BSL can be poorly diversified portfolio. Fund managers have failed to incorporate appropriate changes in the composition of portfolio to climb their performance according to changing conditions in the market. Thus, there is a urgent need update and upgrade the portfolio composition of said AMC's selection schemes.

    Risk adjusted return related suggestions:

5. It is suggested that as per overall ranking of risk-adjusted return models, all the select schemes of large cap category, DSPBR Top 100 equity fund has placed in last position (5th Rank). Hence, there urgent need to update and upgrade portfolio composition of different schemes to make them to fair well.

General Suggestions

6. Generally, mutual fund invests in stock, debt as per the investment fund objective in order to spread the risk and get good return. Hence fund managers investment is backed up by large and strong research team, which makes mutual fund less risky than that of stock investment.

7. Hybrid & Growth Equity Diversified Schemes are hand on hand with market and also shows fruitful returns along with low level of risk. So the investors should identify these schemes and park their fund which can get better return as against the level of risk involved.

8. The performance of particular fund is denoted through Net Asset Value (NAV). Hence, it is immaterial if invest either on higher or lower NAV. What actually matters is the percentage return on invested funds. So, instead of looking for low NAV funds of investment, it is worthwhile to pay attention towards other factors like, performance track records, volatility that determine the overall portfolio return.

9. Most of the Asset Management Companies (AMC) use Secure Socket Layer (SSL) technology to ensure that information transmitted between the investor and the AMC across the internet is secured. But SSL works by using private, mathematical key to encrypt data. Hence every investor should pay heed towards internet portal through security agencies. Such as, Verisign & Symatec before parking the funds.

10. As per the SEBI (Mutual funds) Regulations, every fund house share their information pertain to different scheme at regular intervals. Accordingly, some fund houses send the relevant information either in weekly, quarterly basis. But they fail to update the portfolio on their websites on regular intervals which keeps the investors in dark. Hence every investor should update such factors before taking such investment decisions.

CONCLUSION

In nutshell, it can be said that out of all select equity oriented large cap schemes, BSL Index fund is the best as it obtained top rank in overall ranking of risk-adjusted return. On the contrary, standard deviation, beta and r-squared values of BSL Index fund were shown as riskier. According to the risk-adjusted return DSPBR top 100 equity fund was poorly performed as compared to rest of its peers. The beta value of the schemes being less than one imply that the schemes are less affected by the market ups and downs. Moreover, the fund managers capability in terms of their stock selection ability and market timing is found to be

at low ebb. Therefore, the researcher has offered major suggestions to fund managers to possess seismographic sensitivity to grasp immediately changing stock market environment to effectuate appropriate portfolio revision strategy to optimize the portfolio composition.

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