

Review Article

A Study on Performance Evaluation of Select Large Cap Mutual Fund Growth Schemes in India

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Received Date: 09 May 2020

Revised Date: 12 June 2020

Accepted Date: 14 June 2020

Abstract - Among various investment avenues that are available to investors, mutual funds have become a more promising investment avenue by ensuring attractive returns. Further, mutual funds offer capital appreciation with momentous investment growth by investing in the capital market under the supervision of professional management. Despite, investments in mutual funds are not free from risk, and the fund returns are subjected to vary based on the market risk and unique risk exposure. In this context, selecting a worthwhile mutual fund investment is highly desirable and needs proper monitoring and evaluation. Hence, the present study intended to evaluate the performance of selected mutual fund growth schemes that were predominantly invested in Large-cap companies by ten asset Management companies in India. The main objective of this research work is to evaluate the performance of selected mutual fund schemes through popular performance measures, namely Sharpe, Treynor, Jensen, and statistical tools such as standard deviation, covariance and correlation. The findings of this research study will be useful to the investors and other interested parties for making informed investment decisions.

Keywords - Mutual funds, Growth mutual fund schemes, performance evaluation.

I. INTRODUCTION

A mutual fund is a mechanism for pooling the funds by issuing units to the investors and investing them in the security market as per the stated objectives mentioned in the offer document. The gradually mutual fund has become one of the popular financial instruments in the capital market like mutual funds influenced by the Security market, which often prone to unexpected volatility and sometimes reaction may be positive or negative. Further, market sentiments affect price movement, and investor needs to identify how much market or benchmark offer return. While making an investment or altering a portfolio, Investors need to attempt for the trade-off between return and risk. Hence, the performance evaluation of investment gained significance and need to be conducted from time to time.

II. STATEMENT OF THE PROBLEM

The investments in mutual funds are rapidly growing due to the rise in household savings, especially in the financial assets, escalation of money supply and the

relatively low yield on bank deposits. Besides, the basic features of the mutual fund are safety, yield and liquidity, which encourage the investors to incline towards mutual fund investment to a greater extent. Mutual funds have become a dynamic investment avenue that plays a crucial role in the economy for channelizing savings and investments into the security market. Hence, the security market activities are highly significant in influencing investment in mutual funds. Owing to the significance attached to mutual fund investments, research is essential to know the performance of mutual funds and to make wise investment decisions.

There are some studies that conducted research on the performance of mutual funds. Muthappan, P.K. and Damodharan, E., (2006) conducted research on the performance of Indian Mutual fund Schemes in the context of risk and return and found that there was no proper balance maintained between the selectivity and diversification of sample schemes considered for the study. The research study ViyyannaRao, K. and NirmalaDaita (2010) attempts to study the performance of selected mutual fund growth schemes by using Sharpe and Treynor measures. The study found that there is a need to improve the performance of selected funds in terms of diversification of risk. Nimalathasan& Kumar Gandhi (2012) studied the financial performance analysis of selected equity diversified schemes and equity mid-cap schemes analyzed by using Sharpe, Treynor, Jensen and found that the performance of diversified equity schemes was relatively better than the equity mid-cap schemes.

Some other studies conducted in the field of mutual funds such as Catherine Kalayan S Almote(2014) conducted research on the performance of selected debt funds and money market, Bhavsar and Damani (2014) conducted a comparative study of ten open-ended equity growth schemes, Goyal (2015) analyzed the performance CRISIL rated mutual funds, Satheesh Kumar et al. (2016) conducted a comparative study to evaluate the performance of different categories of mutual funds. The previous literature indicated that there is no previous study covering performance evaluation of growth schemes, including both public and private sector Indian mutual funds that were invested predominantly in large-cap



companies. This motivated the researcher to undertake the study with the following major objective.

A. Major objective of the study: The following is the major objective of the study.

- To evaluate the performance of select growth schemes using Sharpe, Treynor, Jensen measures of portfolio evaluation

Hypotheses: In order to achieve the above objective, the following hypotheses were developed

Hypothesis 1: There is no significant difference among the results of performance evaluation measures as suggested by Sharpe, Treynor and Jensen.

Hypothesis 2: Index Return and fund Return are not significantly related.

B. Research design

The present study is analytical in nature, which evaluates the existing facts and figures to draw certain conclusions. The present study is undertaken to evaluate the performance evaluation of selected growth funds of mutual fund companies.

C. Sources of Data and Data Collection

The data obtained for the study is gathered from secondary data sources. For the purpose of making a comparison of performance indicators, market returns of S & P BSE Sensex were taken as the benchmark index. Net Assets Values (NAVs) of selected schemes gathered from the respective websites.

D. Sampling Frame:

The sampling frame includes: 1. SBI Blue Chip Growth Fund, 2. HDFC Top 100 Fund - Growth Option, 3. Essel Large Cap Equity Fund - Growth Option, 4. Edelweiss Large Cap Fund - Regular Plan-Growth option, 5. Canara RobecoBluechip Equity Fund - Regular Plan-Growth option, 6. Kotak Bluechip Fund-Growth, 7. BNP

Paribas Large Cap Fund-Growth option, 8. Baroda Large-cap Fund - Plan A - Growth option, 9. Aditya Birla Sun Life Equity Advantage Fund - Regular Growth option, 10. ICICI Prudential Blue-chip Fund - Growth option,

E. Tools and Techniques

The study employed relevant tools and techniques developed by earlier researchers and financial analysts to analyze the performance of mutual funds. The performance evaluation tools such as Sharpe’s performance index, Treynor’s rewards-to-variability ratio and Jensen’s Alpha have been used; in addition, statistical tool correlation also employed. The following formulas are used in the evaluation process.

$$\text{Returns} = (NAV_1 - NAV_0 / NAV_0) 100$$

$$\text{Total Risk (Standard deviation)} = \sqrt{D^2 / N}$$

$$\text{Market Risk (Beta value)} = \text{covariance} / \sigma_m \times \sigma_m$$

$$\text{Sharpe's ratio} = (R_m - R_f) / \sigma$$

$$\text{Treynor's ratio} = (R_m - R_f) / \beta$$

$$\text{Jensen's alpha} = R_s - [R_f + \beta(R_m - R_f)]$$

F. Scope of the Study:

The scope of the study is restricted to the time period 2010-11 to 2017-18. The growth schemes that were still in operation from the date of the launch were considered. Performance in terms of NAV of selected equity growth schemes predominantly invested in large capital companies was studied from the angle of risk and return in comparison with the benchmark index S & P BSE Sensex.

G. Performance Evaluation of Sample mutual funds

The study considered ten selected growth schemes of different Asset Management Companies in order to analyze the performance of mutual funds. The sample of ten mutual fund schemes comprised of all equity diversified long term growth funds predominantly invested in large-cap companies. The study chose Coupon Rate of Return on Government Bond as risk-free rate of return.

Table 1. Calculation of Returns and Risk of SBI Blue Chip Regular Growth Plan

Year	NAV	Return (Rs)	d	d ²	S & P BSE Sensex	Return	D	D ²	D * d
2010-2011	14.5600	--			19445.2				
2011-2012	13.7800	-0.0536	-0.20804	0.04328	17404.2	-0.1050	-0.1911	0.0365198	0.0398
2012-2013	16.1482	0.1719	0.05660	0.0032	18835.8	0.0823	-0.0039	1.509E-05	-0.0002
2013-2014	19.1341	0.1849	0.06965	0.00485	22386.3	0.1885	0.1024	0.0104773	0.0071
2014-2015	28.3756	0.4830	0.36773	0.13522	27957.5	0.24887	0.1627	0.0264806	0.0598
2015-2016	27.9209	-0.0160	-0.13128	0.01723	25341.9	-0.0936	-0.1797	0.0322908	0.0236
2016-2017	33.5722	0.2024	0.08715	0.00759	29620.5	0.16884	0.0827	0.0068389	0.0072
2017-2018	37.2226	0.1087	-0.00652	0.00004	32968.7	0.11304	0.0269	0.0007234	-0.0002
Total	190.7136	1.0813	0.23528	0.2114325	174515	0.60297	0.0000	0.113346	0.1371
Fund returns(Rs)= 0.1545			Total Risk(S.D) = 0.1738		Market returns (Rm)=0.0861		Index's Risk (SDm) = 0.1273 Covariance(CV) =0.0196 Market risk (β)=1.2098		

Table 2. Calculation of Returns and Risk of HDFC Top 100 Fund - Growth Option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	215.2270	--			19445.20				
2011-2012	201.3820	-0.0643	-0.1796	0.0323	17404.20	-0.1050	-0.1911	0.0365	0.0343
2012-2013	210.4850	0.0452	-0.0701	0.0049	18835.80	0.0823	-0.0039	0.0000	0.0003
2013-2014	253.6260	0.2050	0.0897	0.0081	22386.30	0.1885	0.1024	0.0105	0.0092
2014-2015	342.6780	0.3511	0.2359	0.0556	27957.50	0.2489	0.1627	0.0265	0.0384
2015-2016	309.1090	-0.0980	-0.2132	0.0455	25341.90	-0.0936	-0.1797	0.0323	0.0383
2016-2017	401.8620	0.3001	0.1848	0.0342	29620.50	0.1688	0.0827	0.0068	0.0153
2017-2018	429.0850	0.0677	-0.0475	0.0023	32968.70	0.1130	0.0269	0.0007	-0.0013
Total	2363.4540	0.8068	0.0000	0.1827	174515.0	0.6030	0.0000	0.1133	0.1345
Fund returns(Rs)= 0.1545			Total Risk(S.D) = 0.1616		Market returns (Rm)=0.0861		Index's Risk (SDm) = 0.1273 Covariance(CV) =0.0192 Market risk (β) =1.1864		

Table 3. Calculation of Returns and Risk of Essel Large Cap Equity Fund - Growth Option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	10.0000	--			19445.2				
2011-2012	10.2907	0.0291	-0.0919	0.0084	17404.2	-0.1050	-0.1911	0.0365	0.0176
2012-2013	11.1491	0.0834	-0.0375	0.0014	18835.8	0.0823	-0.0039	0.0000	0.0002
2013-2014	12.7346	0.1422	0.0212	0.0005	22386.3	0.1885	0.1024	0.0105	0.0022
2014-2015	16.5605	0.3004	0.1795	0.0322	27957.5	0.2489	0.1627	0.0265	0.0292
2015-2016	15.9031	-0.0397	-0.1607	0.0258	25341.9	-0.0936	-0.1797	0.0323	0.0289
2016-2017	20.116	0.2649	0.1440	0.0207	29620.5	0.1688	0.0827	0.0068	0.0119
2017-2018	21.4512	0.0664	-0.0546	0.0030	32968.7	0.1130	0.0269	0.0007	-0.0015
Total	118.2052	0.8467	0.0000	0.0920	174515.0	0.6030	0.0000	0.1133	0.0884
Fund returns(Rs)= 0.1210			Total Risk(S.D) = 0.1147		Market returns (Rm)=0.0861		Index's Risk (SDm) = 0.1273 Covariance(CV) =0.0126 Market risk (β) =0.7798		

Table 4. Calculation of Returns and Risk of Edelweiss Large Cap Fund - Regular Plan - Growth option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	14.1400	--			19445.2				
2011-2012	14.0100	-0.0092	-0.1432	0.0205	17404.2	-0.105	-0.1911	0.0365	0.0274
2012-2013	15.4200	0.1006	-0.0334	0.0011	18835.8	0.08225	-0.0039	0.0000	0.0001
2013-2014	18.0400	0.1699	0.0359	0.0013	22386.3	0.1885	0.1024	0.0105	0.0037
2014-2015	26.0200	0.4424	0.3083	0.0951	27957.5	0.24887	0.1627	0.0265	0.0502
2015-2016	23.9800	-0.0784	-0.2124	0.0451	25341.9	-0.0936	-0.1797	0.0323	0.0382
2016-2017	28.3900	0.1839	0.0499	0.0025	29620.5	0.16884	0.0827	0.0068	0.0041
2017-2018	32.0500	0.1289	-0.0051	0.0000	32968.7	0.11304	0.0269	0.0007	-0.0001
Total	172.0500	0.9381	0.0000	0.165617	174515.0	0.60297	0.0000	0.1133	0.12351
Fund returns(Rs)=0.1340			Total Risk(S.D) = 0.1538		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.0176 Market risk (β) =1.090		

Table 5. Calculation of Returns and Risk of CanaraRobeco Blue chip Equity Fund - Regular Plan - Growth option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	10.5100	--			19445.2				
2011-2012	10.5700	0.0057	-0.1129	0.0128	17404.2	-0.1050	-0.1911	0.0365	0.0216
2012-2013	11.3800	0.0766	-0.0420	0.0018	18835.8	0.0823	-0.0039	0.0000	0.0002
2013-2014	13.2300	0.1626	0.0439	0.0019	22386.3	0.1885	0.1024	0.0105	0.0045
2014-2015	17.8900	0.3522	0.2336	0.0546	27957.5	0.2489	0.1627	0.0265	0.0380
2015-2016	16.5300	-0.0760	-0.1947	0.0379	25341.9	-0.0936	-0.1797	0.0323	0.0350
2016-2017	19.8100	0.1984	0.0798	0.0064	29620.5	0.1688	0.0827	0.0068	0.0066
2017-2018	22.0100	0.1111	-0.0076	0.0001	32968.7	0.1130	0.0269	0.0007	-0.0002
Total	121.9300	0.8306	4E-09	0.1153	174515	0.6030	0.0000	0.1133	0.10563
Fund returns(Rs)=0.1187			Total Risk(S.D) = 0.1284		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.0151 Market risk (β) =0.9319		

Table 6. Calculation of Returns and Risk of KotakBluechip Fund – Growth option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	17.5500	--			19445.2				
2011-2012	16.4200	-0.0644	-0.1849	0.0342	17404.2	-0.1050	-0.1911	0.0365	0.0353
2012-2013	17.1600	0.0451	-0.0754	0.0057	18835.8	0.0823	-0.0039	0.0000	0.0003
2013-2014	20.6900	0.2057	0.0852	0.0073	22386.3	0.1885	0.1024	0.0105	0.0087
2014-2015	28.5100	0.3780	0.2575	0.0663	27957.5	0.2489	0.1627	0.0265	0.0419
2015-2016	25.6900	-0.0989	-0.2194	0.0481	25341.9	-0.0936	-0.1797	0.0323	0.0394
2016-2017	30.7000	0.1950	0.0745	0.0056	29620.5	0.1688	0.0827	0.0068	0.0062
2017-2018	36.3200	0.1831	0.0626	0.0039	32968.7	0.1130	0.0269	0.0007	0.0017
Total	193.0400	0.8435	2.4E-08	0.1710	174515	0.6030	0.0000	0.1133	0.13352
Fund returns(Rs)=0.1205			Total Risk(S.D) = 0.1563		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.0190 Market risk (β) =1.1777		

Table 7. Calculation of Returns and Risk of BNP Paribas large Cap Fund-Growth option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	34.7000	--			19445.2				
2011-2012	34.4600	-0.0069	-0.1496	0.0224	17404.2	-0.1050	-0.1911	0.0365	0.0286
2012-2013	37.8200	0.0975	-0.0452	0.0020	18835.8	0.0823	-0.0039	0.0000	0.0002
2013-2014	45.3600	0.1994	0.0567	0.0032	22386.3	0.1885	0.1024	0.0105	0.0058
2014-2015	69.5800	0.5340	0.3913	0.1531	27957.5	0.2489	0.1627	0.0265	0.0637
2015-2016	63.6100	-0.0858	-0.2285	0.0522	25341.9	-0.0936	-0.1797	0.0323	0.0411
2016-2017	74.2200	0.1668	0.0241	0.0006	29620.5	0.1688	0.0827	0.0068	0.0020
2017-2018	81.1800	0.0938	-0.0489	0.0024	32968.7	0.1130	0.0269	0.0007	-0.0013
Total	440.9300	0.9987	0.0000	0.2359	193960.1	0.60297	-5E-07	0.1133	0.1400
Fund returns(Rs)=0.1427			Total Risk(S.D) = 0.1836		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.02 Market risk (β) =1.2349		

Table 8. Calculation of Returns and Risk of Baroda Large cap Fund – Plan A – Growth Option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	9.4500	--			19445.2				
2011-2012	7.7400	-0.1810	-0.2519	0.0635	17404.2	-0.1050	-0.1911	0.0365	0.0481
2012-2013	6.9900	-0.0969	-0.1679	0.0282	18835.8	0.0823	-0.0039	0.0000	0.0007
2013-2014	8.3200	0.1903	0.1193	0.0142	22386.3	0.1885	0.1024	0.0105	0.0122
2014-2015	12.2000	0.4663	0.3954	0.1563	27957.5	0.2489	0.1627	0.0265	0.0643
2015-2016	10.1700	-0.1664	-0.2374	0.0563	25341.9	-0.0936	-0.1797	0.0323	0.0427
2016-2017	12.8800	0.2665	0.1955	0.0382	29620.5	0.1688	0.0827	0.0068	0.0162
2017-2018	13.1100	0.0179	-0.0531	0.0028	32968.7	0.1130	0.0269	0.0007	-0.0014
Total	80.8600	0.4967	0.0000	0.3596	174515.0	0.6030	0.0000	0.1133	0.1827
Fund returns(Rs)=0.0710			Total Risk(S.D) = 0.2267		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.0261 Market risk (β) =1.6122		

Table 9. Calculation of Returns and Risk of Aditya Birla Sun Life Equity Advantage Fund - Regular Growth Option

Year	NAV	Return (Rs)	d	d2	S & P BSE Sensex	Return	D	D2	D * d
2010-2011	157.7100	--			19445.2				
2011-2012	141.3900	-0.1035	-0.2673	0.0714	17404.2	-0.1050	-0.1911	0.0365	0.0511
2012-2013	146.8100	0.0383	-0.1255	0.0157	18835.8	0.0823	-0.0039	0.0000	0.0005
2013-2014	189.1800	0.2886	0.1248	0.0156	22386.3	0.1885	0.1024	0.0105	0.0128
2014-2015	294.9500	0.5591	0.3953	0.1563	27957.5	0.2489	0.1627	0.0265	0.0643
2015-2016	281.8800	-0.0443	-0.2081	0.0433	25341.9	-0.0936	-0.1797	0.0323	0.0374
2016-2017	369.4400	0.3106	0.1468	0.0216	29620.5	0.1688	0.0827	0.0068	0.0121
2017-2018	405.5600	0.0978	-0.0660	0.0044	32968.7	0.1130	0.0269	0.0007	-0.0018
Total	1581.3600	1.1466	2E-09	0.3282464	174515	0.60297	0.0000	0.1133	0.17643
Fund returns(Rs)=0.1638			Total Risk(S.D) = 0.2166		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.0252 Market risk (β) =1.5565		

Table 10. Calculation of Returns and Risk of ICICI Prudential Blue chip Fund - Growth Option

Year	NAV	Return (Rs)	d	d2	S & PBSE Sensex	Return	D	D2	D * d
2010-2011	16.9200	--			19445.2				
2011-2012	16.3000	-0.0366	-0.1711	0.0293	17404.2	-0.1050	-0.1911	0.0365	0.033
2012-2013	17.6500	0.0828	-0.0516	0.0027	18835.8	0.0823	-0.0039	0.0000	0.000
2013-2014	21.6300	0.2255	0.0910	0.0083	22386.3	0.1885	0.1024	0.0105	0.009
2014-2015	29.4800	0.3629	0.2285	0.0522	27957.5	0.2489	0.1627	0.0265	0.037
2015-2016	27.5200	-0.0665	-0.2009	0.0404	25341.9	-0.094	-0.1797	0.0323	0.036
2016-2017	34.3400	0.2478	0.1134	0.0129	29620.5	0.1688	0.0827	0.0068	0.009
2017-2018	38.6400	0.1252	-0.0092	0.0001	32968.7	0.1130	0.0269	0.0007	0.000
Total	202.4800	0.9411	0.0000	0.1457	174515	0.60297	-4.52E-07	0.1133	0.12463
Fund returns(Rs)=0.1345			Total Risk(S.D) = 0.1443		Market returns (Rm)=0.0861		Index's Risk (SDm) =0.1273 Covariance(CV) =0.0178 Market risk (β) =1.0995		

Table 11. Performance Analysis of Selected Funds Under Three Measures

Sr. No.	Name of Fund	Average Return	Total Risk (S.D.)	Market Risk (Beta)	Sharpe's Ratio	Treynor's Measure	Jensen's Alpha
1	SBI Blue Chip Growth Fund	0.1545	0.1738	1.2098	0.4417	0.0635	0.0666
2	HDFC Top 100 Fund – Growth Option	0.1153	0.1616	1.1864	0.2325	0.0317	0.0275
3	Essel Large Cap Equity Fund – Growth Option	0.1210	0.1147	0.7798	0.3773	0.0555	0.0367
4	Edelweiss Large Cap Fund – Regular Plan – Growth option	0.1340	0.1538	1.0897	0.3661	0.0517	0.0471
5	CanaraRobeco Blue chip Equity Fund – Regular Plan – Growth option	0.1187	0.1284	0.9319	0.3191	0.0440	0.0331
6	KotakBluechip Fund – Growth option	0.1205	0.1563	1.1778	0.2738	0.0363	0.0328
7	BNP PARIBAS LARGE CAP Fund-Growth option	0.1427	0.1836	1.2349	0.3540	0.0526	0.0545
8	Baroda Large cap Fund – Plan A – Growth option	0.0710	0.2267	1.6122	-0.0298	-0.0042	-0.0203
9	Aditya Birla Sun Life Equity Advantage Fund – Regular Growth option	0.1638	0.2166	1.5565	0.3976	0.0553	0.0730
10	CICI Prudential Blue-chip Fund – Growth option	0.1345	0.1443	1.0995	0.3933	0.0516	0.0475

The above Table:11 reveals that Aditya Birla Sun Life Equity Advantage Fund – Regular Growth option registered relatively high average returns (0.1638) among the sample funds when considering the risks that the fund manager took to achieve respective returns. But, the best fund is not necessarily the fund with the higher average return. Instead, a better-performed fund has a relatively higher Reward-To-Risk ratio which can identify through superior Sharpe and Treynor ratios. SBI Blue Chip Growth Fund seems to be a better performing fund with superior Sharpe and Treynor ratios. Aditya Birla Sun Life Equity

Advantage Fund – Regular Growth option exhibit better risk-adjusted returns with a higher Jensen ratio. Baroda Large Cap Fund registered relatively the lowest average return with the highest risk component in the form of Standard Deviation as well as Beta coefficient amongst the selected mutual funds.

Ranking of Funds based on Performance Measures

The following Table: 12 depict the ranking of selected funds based on Sharpe, Treynor and Jensen's measures.

Table 12. Ranking of Funds Based on Performance Measures

Rank	Sharpe's Measure	Treynor's Measure	Jensen's Alpha
1	SBI Blue Chip Growth Fund	SBI Blue Chip Growth Fund	Aditya Birla Sun Life Equity Advantage Fund - Regular Growth option
2	Aditya Birla Sun Life Equity Advantage Fund - Regular Growth option	Essel Large Cap Equity Fund-Growth Option	SBI Blue Chip Growth Fund
3	ICICI Prudential Blue-chip Fund – Growth option	Aditya Birla Sun Life Equity Advantage Fund - Regular Growth option	BNP PARIBAS LARGE CAP Fund-Growth option
4	Essel Large Cap Equity Fund-Growth Option	BNP PARIBAS LARGE CAP Fund-Growth option	ICICI Prudential Blue-chip Fund - Growth option
5	Edelweiss Large Cap Fund - Regular Plan-Growth option	Edelweiss Large Cap Fund - Regular Plan-Growth option	Edelweiss Large Cap Fund - Regular Plan-Growth option
6	BNP Paribas Large Cap Fund-Growth option	ICICI Prudential Blue-chip Fund – Growth option	Essel Large Cap Equity Fund-Growth Option
7	Canara Robeco Bluechip Equity Fund - Regular Plan-Growth option	Canara Robeco Bluechip Equity Fund - Regular Plan-Growth option	Canara Robeco Bluechip Equity Fund - Regular Plan-Growth option
8	Kotak Blue chip Fund - Growth option	Kotak Blue chip Fund - Growth option	Kotak Blue chip Fund - Growth
9	HDFC Top 100 Fund - Growth Option	HDFC Top 100 Fund - Growth Option	HDFC Top 100 Fund - Growth Option
10	Baroda Large cap Fund - Plan A – Growth option	Baroda Large cap Fund - Plan A – Growth option	Baroda Large cap Fund - Plan A - Growth option

Hypothesis 1:

There is no significant difference among the results of performance evaluation measures as suggested by Sharpe, Treynor and Jensen. To test the above hypothesis, Spearman's Rank Correlation is applied, taking the values of Sharpe Ratio, Treynors' Ratio and Jensen's Alpha of all the ten selected funds.

Table 13. Spearman's Correlations Among Sharpe, Treynor and Jensen Measures

			Sharpe's Measure	Treynor's Measure	Jensen's Alpha
Spearman's rho	Sharpe's Measure	Correlation Coefficient	1.000	.891**	.903**
		Sig. (2-tailed)	.	.001	.000
			10	10	10
	Treynor's Measure	Correlation Coefficient	.891**	1.000	.842**
		Sig. (2-tailed)	.001	.	.002
			10	10	10
	Jensen's Alpha	Correlation Coefficient	.903**	.842**	1.000
		Sig. (2-tailed)	.000	.002	.
			10	10	10

** . Correlation is significant at the 0.01 level (2-tailed).

Table 13 states that the correlation between Sharpe and Treynor's Ratio is 0.891 ($r = 0.891$, p -value < 0.05), between Sharpe's Ratio and Jensen's alpha is 0.903 ($r = 0.903$, p -value < 0.05) and between Treynor's Ratio and Jensen's Alpha is 0.842 ($r = 0.842$, p -value < 0.05), which states there is strong relationship between the variables. However, the sig (2-tailed) value, i.e. p -value obtained, is

0.001, 0.000 and 0.02, respectively, which is less than the alpha value of 0.05, which states that there is a significant difference among the results of the three performance evaluation measures. Hence the hypothesis, i.e. "There is no significant difference among the results of performance evaluation measures as suggested by Sharpe, Treynor and Jensen", is **rejected**.

Hypothesis 2: Index Return and Fund Return are not significantly related

To study the relationship between index return and fund's return, Pearson correlation is calculated between Index return and individual fund's return

Table 14. Pearson Correlations Between Index Return and Fund Return

		S & P Sensex
ICICI Prudential Blue-chip Fund - Growth	Pearson Correlation	.970**
	Sig. (2-tailed)	0
	N	7
Aditya Birla Sun Life Equity Advantage Fund - Regular Growth	Pearson Correlation	.915**
	Sig. (2-tailed)	0.004
	N	7
Baroda Large cap Fund - Plan A - Growth Option	Pearson Correlation	.905**
	Sig. (2-tailed)	0.005
	N	7
BNP PARIBAS LARGE CAP Fund-Growth Option	Pearson Correlation	.856*
	Sig. (2-tailed)	0.014
	N	7
KotakBluechip Fund - Growth	Pearson Correlation	.959**
	Sig. (2-tailed)	0.001
	N	7

CanaraRobecoBluechip Equity Fund - Regular Plan - Growth	Pearson Correlation	.924**
	Sig. (2-tailed)	0.003
	N	7
Edelweiss Large Cap Fund - Regular Plan-Growth option	Pearson Correlation	.901**
	Sig. (2-tailed)	0.006
	N	7
Essel Large Cap Equity Fund - Growth Option	Pearson Correlation	.865*
	Sig. (2-tailed)	0.012
	N	7
HDFC Top 100 Fund - Growth Option	Pearson Correlation	.934**
	Sig. (2-tailed)	0.002
	N	7
SBI Blue Chip Fund-Regular Plan Growth	Pearson Correlation	.893**
	Sig. (2-tailed)	0.007
	N	7

**Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 14 shows the Pearson correlation coefficient and Sig. (2-tailed) value, i.e. p-value between S & P Sensex's return and selected mutual funds' returns over the period of 7 Years (n-1). There is very strong relationship between ICICI Prudential growth fund and Sensex return with Pearson correlation 0.970 and p-value obtained is 0.000 ($p < 0.05$), in case of Aditya Birla Sun Life growth fund and Sensex the relationship is very strong with correlation of 0.915 and p-value of 0.004 ($p < 0.05$), in case of Baroda Large Cap Fund the relationship is very strong with correlation of 0.905 and p-value of 0.005 ($p < 0.05$), BNP Paribas large cap fund also shows a strong relationship with correlation of 0.856 and p-value of 0.014 ($p < 0.05$), CanaraRobeco Blue chip Equity Fund also shows a very strong relationship with Sensex with correlation of 0.924 and p-value of 0.03 ($p < 0.05$), in case of Edelweiss Large Cap Fund the relationship is very strong with correlation of 0.901 and p-value of 0.006 ($p < 0.05$), Essel Large Cap Equity Fund also shows a strong relationship with correlation of 0.865 and p-value of 0.012 ($p < 0.05$), in case HDFC Top 100 Fund the relationship with Sensex is very strong with correlation of 0.934 and p-value of 0.002 ($p < 0.05$) and SBI Blue Chip Fund also has strong relationship with Sensex since the correlation coefficient is 0.893 and p-value of 0.007 ($p < 0.05$).

All the funds have shown a strong relationship with Sensex, and the p-value obtained from all the funds is less than the alpha value of 0.05, which state that the fund's returns have a significant relationship with the Sensex return and hence, the hypothesis, i.e. "Index Return and Fund Return are not significantly related" is rejected.

III. SUMMARY

The study found that Baroda Large Cap Fund registered relatively the lowest average returns due to the exposure of highest. Conversely, Aditya Birla Sun Life Equity Advantage Fund generated relatively highest returns by tackling optimum risk. Among all other selected funds, Essel Large Cap Equity Fund appears as low risk-tolerant. The results of Sharpe and Treynor's measures revealed that the SBI Bluechip growth fund was found as a better performer with impressive risk-adjusted returns, whereas Baroda Large-cap Fund was identified as a poor performer among the rest. Further, it is found that Aditya Birla Sun Life Equity Advantage Fund is relatively outperformed the market while Baroda Large-cap Fund underperformed the market based on Jensen's Alpha results. Further, it is noticed that the fund's returns have a strong significant relationship with Index returns. Finally, conclude that there is a significant difference among the results of performance evaluation measures as suggested by Sharpe, Treynor and Jensen.

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