

**CHAPTER 4**

**Analysis of Equity Funds**

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## 4.1 Analysis of Equity Funds

Indian capital market is performing well from last decade. BSE-SENSEX and NSE-NIFTY both benchmark indexes showing rising trends with a little volatility. Generally investment in share gives higher return beyond 5 years say in long run in relation to investments are made in other financial and real assets in the form of capital appreciation and dividend earning. The study based on relation of mutual funds returns with capital market returns and analyses impact of mutual funds on capital market.

This chapter explains the impact of equity funds on market indices of BSE and NSE by multiple regression and correlation of return. The notion behind the research is to show the relative measurement of mutual funds and capital market because investment in capital market and mutual funds having risk. Selection of schemes based on constant performer equity schemes of mutual fund which rated by rating agency CRISIL.

The analysis is based on impact of equity funds on Indian capital market. Equity funds are more risky to other funds. The study analyses the return from equity funds and its risk with capital market return and risk and show the impact on capital market. Regression analysis used to show the impact of equity funds NAV (independent variable) on capital market index BSE- SENSEX and NSE-NIFTY (dependent variable). Equity funds NAV (independent variable) data collected from specific mutual fund website on daily basis from 1 January 2010 to 31 January 2016 and again converted on monthly basis, and then monthly NAV of each equity scheme converted in funds return by using the formula:

$$R_p = ((NAV_t - NAV_{t-1}) / NAV_{t-1}) \times 100.$$

Capital market index BSE- SENSEX and NSE-NIFTY(dependent variables) data collected from respective website on monthly basis from January 2010 to January 2016 and selected closing index of each month of both market separately and then converted in market return separately by using the formula:  $R_m = \frac{(\text{Index}_t - \text{Index}_{t-1})}{\text{Index}_{t-1}} \times 100$ . Analysis of the data to know the impact of equity funds on capital market done by regression analysis, variance analysis by ANOVA, relation and strength in variables calculated by part correlation(sr) analysis and test of significance of impact calculated by t-test with the help of SPSS.

### **4.2 Result of Equity Funds with NSE**

The result of an SPSS regression analysis to see the impact on NIFTY from all nine predictor variables are shown in Table 4.2.1 to Table.4.2.3 and figure 4.2.1. The tables provide fairly complete information including correlation among the all predictor and outcome variable; mean and standard deviation for each variable involved in analysis, information about overall fit of the regression model (multiple R and R – Square and associated F-test), the b coefficient for the raw score regression equation and a squared part correlation (sr<sup>2</sup>) for each predictor that represent the proportion of variance in the Y outcome variable.

**Table.4.2.1** Descriptive Statistics

### Descriptive Statistics

<b>Variables (Funds)</b>	<b>Mean</b>	<b>Standard Deviation</b>
NSE-NIFTY	0.7217	4.78079
UTI MNC Fund	1.6978	4.29576
Tata Ethical Fund	1.1186	3.63254
SBI Blue Chip Fund	1.0828	4.29501
Franklin Small company Fund	1.7258	5.05603
Franklin India High Growth Companies Fund	1.3097	5.18511
DSPBR Micro Cap Fund	1.8836	5.75588
Birla Sun Life Top 100 Fund	1.1442	4.59391
Birla Sun Life MNC Fund	1.9525	4.6436
Birla Sun Life India Gen Next Fund	1.4953	4.57698

**Table.4.2.2** Model Summary

### Model Summary<sup>b</sup>

<b>Model</b>	<b>Sum of Squares</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>F</b>	<b>Sig.</b>
<b>Regression</b>	1557.619	.980 <sup>a</sup>	0.96	0.954	164.694	.000 <sup>a</sup>
<b>Residual</b>	65.153					

b. Dependent Variable: NSE-NIFTY

a. Predictors: (Constant), Birla Sun Life India Gen Next Fund, Birla Sun Life MNC Fund, Tata Ethical Fund, DSPBR Micro Cap Fund, Birla Sun Life Top 100 Fund, UTI MNC Fund, Franklin small company fund, Franklin India High Growth Companies Fund, SBI Blue Chip Fund.

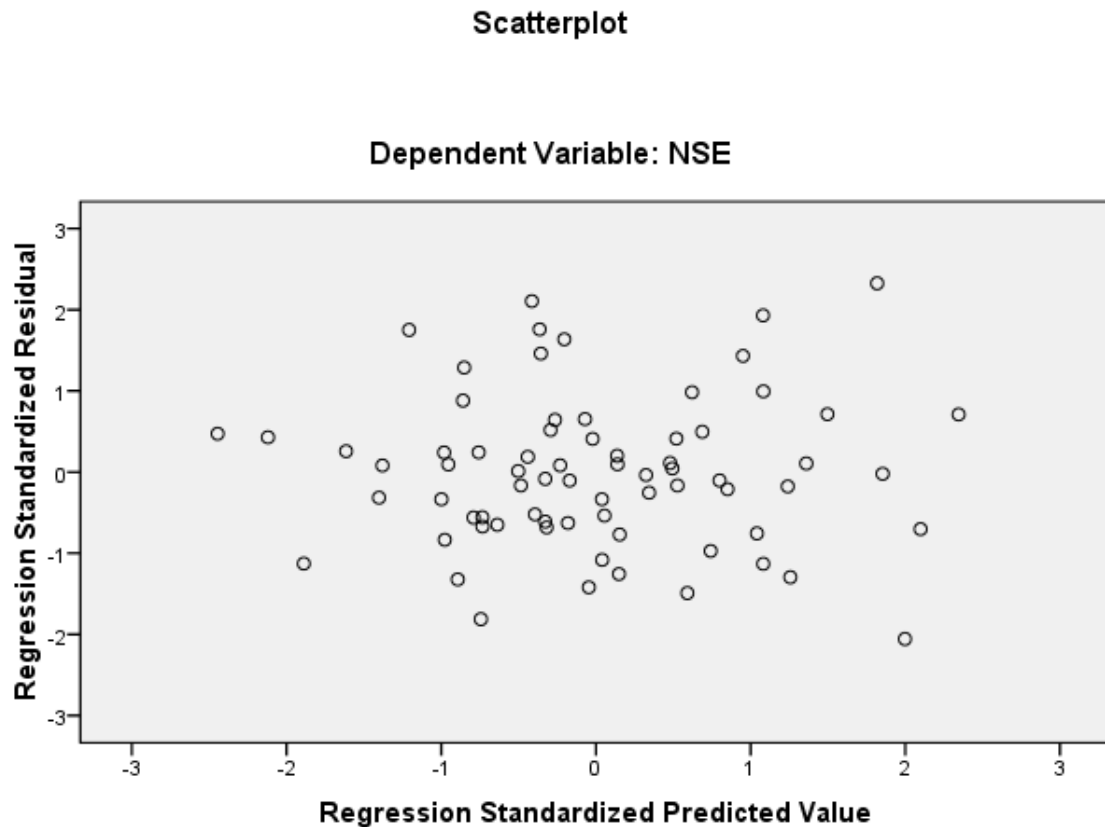
**Table.4.2.3** Coefficients

**Coefficients<sup>a</sup>**

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations Part
		B	Std. Error	Beta			
1	(Constant)	-0.243	0.138		-1.762		
	UTI MNC Fund	0.028	0.085	0.025	0.332	0.008	0.008
	Tata Ethical Fund	0.049	0.073	0.037	0.669	0.017	0.017
	SBI Blue Chip Fund	0.644	0.134	0.579	4.825	0.123	0.123
	Franklin Small company Fund	-0.272	0.093	-0.288	-2.943	-0.075	-0.075
	Franklin India High Growth Companies Fund	0.055	0.100	0.059	0.545	0.014	0.014
	DSPBR Micro Cap Fund	-0.057	0.058	-0.069	-0.987	-0.025	-0.025
	Birla Sun Life Top 100 Fund	0.700	0.104	0.672	6.711	0.171	0.171
	Birla Sun Life MNC Fund	-0.064	0.067	-0.062	-0.951	-0.024	-0.024
	Birla Sun Life India Gen Next Fund	-0.003	0.072	-0.003	-0.044	-0.001	-0.001

a. Dependent Variable: NSE-NIFTY

**Figure.4.2.1** Output from SPSS Linear Regression to Predict NIFTY from predictor variables



An SPSS regression analysis for a sample of  $n=72$  show overall multiple regression of impact on NIFTY from all nine predictor variable in Table 4.2.2, the value of  $R=0.980$  show a very high correlation between all equity funds with NIFTY and positive high correlation show return from equity funds and return from NSE move in same direction it indicate increasing in equity funds return and increase in NSE return,  $R^2=0.96$  represent 96% variance in NIFTY could be predicted, Adjusted  $R^2=0.95$  also statistically significant, table.4.2.2 F-Ratio:  $F(9,62)=164.694$ ,  $p<.001$  shows over all multiple

regression model is statistically significant it means equity fund have impact on capital market.

Table.4.2.1: Descriptive Statistics: Mean return of all nine equity funds are high in relation of NIFTY mean return =0.72 and Birla Sun Life MNC Fund with highest return=1.95 and SBI Blue Chip Fund with lowest return=1.08; three out of nine equity funds have high Standard Deviation showing high risk in comparison with NIFTY Std. Deviation=4.78079 only Tata Ethical Fund has less risky having Standard Deviation=3.63254.

The last Table 4.2.3: shows coefficients for both raw score and the standard score of regression equation. The raw labeled constant provide the estimated value of  $b_0$ , the intercept ( $b_0 = -0.243$ ) and t-test to evaluate whether this differed significantly from 0. The intercept  $b_0$  is significant different from 0;  $t(72) = -1.762$  ( $p = 0.083$ ). Only two equity funds are statistically significant out of nine equity funds one is Birla Sun Life Top 100 Fund with  $b$  value=0.700;  $t(72) = 6.71$ ,  $p < .001$  representing 0.70 increase in return in NIFTY for a each 1 unit increase in Birla Sun Life Top 100 Funds return and its  $sr = 0.17$  ( $sr^2 = .0289$ ) about 3% of variance in NIFTY uniquely predicated from Birla Sun Life Top 100 Fund and second SBI Blue Chip Fund with  $b$  value=0.644;  $t(72) = 4.83$ ,  $p < .001$  representing .64 increase in return in NIFTY for a each 1 unit increase in SBI Blue Chip Fund return and its  $sr = 0.123$  ( $sr^2 = 0.015$ ) about 1.5 of variance in NIFTY uniquely predicated from SBI Blue Chip Fund. The other seven predictor variables are not significantly related to NIFTY.

The predictive regression equation  $\gamma = \alpha + \beta x$  is as follows:

Where:

$\gamma$ =NSE-NIFTY (Dependent Variable)

$\alpha$  =Alpha

$\beta$ =Beta

$x$ =Equity Funds (Independent variable)

$NIFTY = -0.243 + 0.64 \times \text{SBI Blue Chip Fund} + 0.700 \times \text{Birla Sun Life Top 100 Fund}$

The standardized residual as part of the regression analysis appears in Figure 4.2.1: When the assumption of regression are satisfied by the data, the point in this plot should appear within a fairly uniform band from left to right and most standardized residuals should be between -3 to +3. The graph shows that the assumption for regression appear to be reasonably well satisfied.



### 4.3 Result of Equity Funds with BSE

The results of an SPSS regression analysis to see the impact on SENSEX from all nine predictor variables are shown in Table 4.3.1 to Table.4.3.3 and Figure 4.3.1. The tables provide fairly complete information including correlation among the all predictor and outcome variable; mean and standard deviation for each variable involved in analysis, information about overall fit of the regression model (multiple R and R – Square and associated F test) the b coefficient for the raw score regression equation and a squared part correlation ( $sr^2$ ) for each predictor that represent the proportion of variance in the Y outcome variable.

**Table.4.3.1** Descriptive Statistics

#### Descriptive Statistics

Variables (Funds)	Mean	Standard Deviation
BSE-SENSEX	0.7541	4.58609
UTI MNC Fund	1.6978	4.29576
Tata Ethical Fund	1.1186	3.63254
SBI Blue Chip Fund	1.0828	4.29501
Franklin Small company Fund	1.7258	5.05603
Franklin India High Growth Companies Fund	1.3097	5.18511
DSPBR Micro Cap Fund	1.8836	5.75588
Birla Sun Life Top 100 Fund	1.1442	4.59391
Birla Sun Life MNC Fund	1.9525	4.6436
Birla Sun Life India Gen Next Fund	1.4953	4.57698

## Analysis of Equity Funds

**Table.4.3.2 Model Summary**

### Model Summary<sup>b</sup>

Model	Sum of Squares	R	R Square	Adjusted R Square	F	Sig.
<b>Regression</b>	1414.63	.973 <sup>a</sup>	0.947	0.94	123.898	.000 <sup>a</sup>
<b>Residual</b>	78.655					

b. Dependent Variable: BSE-SENSEX

a. Predictors: (Constant), Birla Sun Life India Gen Next Fund, Birla Sun Life MNC Fund, Tata Ethical Fund, DSPBR Micro Cap Fund, Birla Sun Life Top 100 Fund, UTI MNC Fund, Franklin small company Fund, Franklin India High Growth Companies Fund, SBI Blue Chip Fund.

**Table.4.3.3 Coefficients**

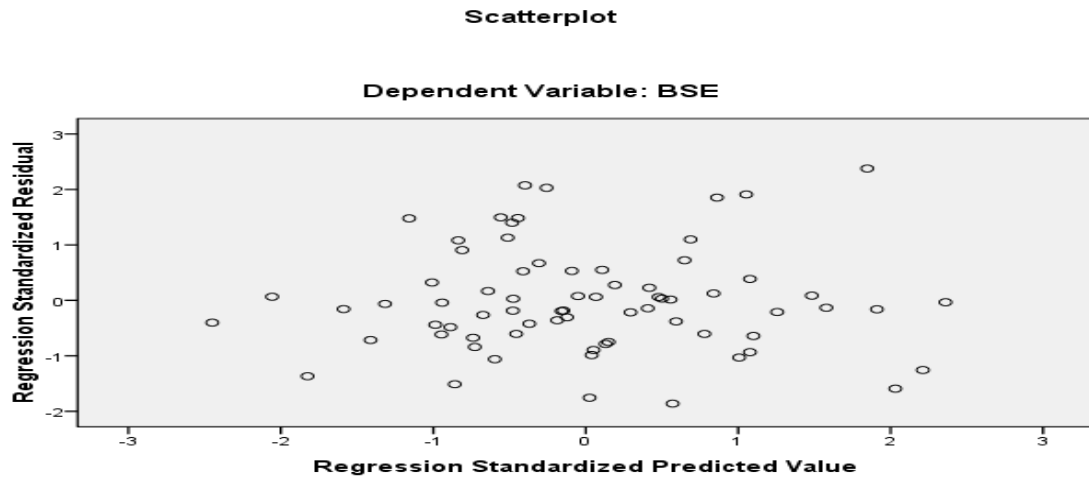
### Coefficients<sup>a</sup>

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations Part
		B	Std. Error	Beta			
1	(Constant)	-0.129	0.151		-0.85	0.398	
	UTI MNC Fund	-0.006	0.093	-0.005	-0.059	0.953	-0.002
	Tata Ethical Fund	0.087	0.08	0.069	1.088	0.281	0.032
	SBI Blue Chip Fund	0.689	0.147	0.645	4.694	0	0.137
	Franklin small company fund	-0.135	0.102	-0.149	-1.328	0.189	-0.039
	Franklin India High Growth Companies Fund	-0.148	0.11	-0.167	-1.343	0.184	-0.039
	DSPBR Micro Cap Fund	-0.125	0.064	-0.156	-1.952	0.055	-0.057
	Birla Sun Life Top 100 Fund	0.789	0.115	0.79	6.886	0	0.201
	Birla Sun Life MNC Fund	-0.079	0.074	-0.08	-1.065	0.291	-0.031
	Birla Sun Life India Gen Next Fund	-0.025	0.079	-0.025	-0.321	0.749	-0.009

a. Dependent Variable: BSE-SENSEX

**Figure 4.3.1** Output from SPSS Linear Regression to Predict SENSEX from predictor variables

## Charts



An SPSS regression analysis for a sample of  $n=72$  show overall multiple regression of impact on SENSEX from all nine predictor variable in Table.4.3.2,  $R=0.973$  show a very high correlation between all equity funds with SENSEX and positive high correlation show return from equity funds and return from BSE move in same direction it indicate increasing in equity funds return and an increase in BSE return,  $R^2=0.95$  represent 95% variance in SENSEX could be predicted, adjusted  $R^2=0.95$  also statistically significant, table.4.3.2: F-Ratio:  $F(9,62)=123.898$ ,  $p<0.001$  show over all multiple regression model is statistically significant it means equity funds have impact on capital market.

Table.4.3.1 Descriptive Statistics: Mean return of all nine equity funds are high in relation of SENSEX mean return=0.7541 and Birla Sun Life MNC Fund with highest return=1.95 and SBI Blue Chip Fund with lowest return=1.08; three out of nine equity

funds have high Standard Deviation showing high risk in comparison with SENSEX Std. Deviation=4.78079 only Tata Ethical Fund has less risky having Std. Deviation=3.63254. The last table 4.3.3 shows coefficients for both raw score and the standard score version of regression equation. The raw labeled constant provide the estimated value of  $b_0$ , the intercept ( $b_0 = -0.129$ ) and a t-test to evaluate whether this differed significantly from 0. The intercept  $b_0$  is significant different from 0;  $t(72) = -0.850$  ( $p = 0.398$ ). Only two equity funds are statistically significant out of nine equity funds one is Birla Sun Life Top 100 Fund with  $b$  value = 0.789;  $t(72) = 6.87$ ,  $p < 0.001$  representing 78.9% increase in return in SENSEX for a 100% increase in Birla Sun Life Top 100 Funds return and its  $sr = 0.201$  ( $sr^2 = 0.04$ ) about 4% of variance in SENSEX uniquely predicated from Birla Sun Life Top 100 Fund and second SBI Blue Chip Fund with  $b$  value = 0.689;  $t(72) = 4.694$ ,  $p < 0.001$  representing 68.9% increase in return in SENSEX for 100% increase in SBI Blue Chip Fund return and its  $sr = 0.137$  ( $sr^2 = 0.0187$ ) about 2% of variance in SENSEX uniquely predicated from SBI Blue Chip Fund. The other seven predictor variables are not significantly related to SENSEX.

The predictive regression equation  $\gamma = \alpha + \beta x$  is as follows:

Where:

$\gamma$  = BSE-SENSEX (Dependent Variable)

$\alpha$  = Alpha

$\beta$  = Beta

$x$  = Equity Funds (Independent Variable)

SENSEX =  $-0.129 + 0.689 \times \text{SBI Blue Chip Fund} + 0.789 \times \text{Birla Sun Life Top 100 Fund}$

The standardized residual requested as part of the regression analysis appears in figure 4.3.1. When the assumption of regression are satisfied by the data, the point in this plot should appear with in a fairly uniform band from left to right and most standardized residuals should be between -3 to +3. The graph shows that the assumption for regression appear to be reasonably well satisfied.

### Summary

An SPSS regression analysis for a sample of  $n=72$  show overall multiple regression of impact on NIFTY from all nine predictor variable in figure 4.1.1,  $R=.980$  show a very high correlation between all equity funds with nifty and positive high correlation show return from equity funds and return from NSE move in same direction it indicate increasing in equity funds return and increase in NSE return,  $R^2=.96$  represent 96% variance in NIFTY could be predicted, adjusted  $R^2=.95$  also statistically significant, F-Ratio:  $F(9,62)= 164.694$ ,  $p<.001$  show overall multiple regression model is statistically significant it means equity fund have impact on capital market.

Descriptive Statistics: Mean return of all nine equity funds are high in relation of NIFTY mean return  $=.72$  and Birla Sun Life MNC Fund with highest return  $=1.95$  and SBI Blue Chip Fund with lowest return  $=1.08$ ; three out of nine equity funds have high Standard Deviation showing high risk in comparison with NIFTY Standard Deviation  $=4.78079$  only Tata Ethical Fund has less risky having Standard Deviation  $=3.63254$ . An SPSS regression analysis for a sample of  $n=72$  show overall multiple regression of impact on SENSEX from all nine predictor variable in figure 4.1.2,  $R=.973$  show a very high correlation between all equity funds with SENSEX and positive high correlation show

return from equity funds and return from BSE move in same direction it indicate increasing in equity funds return and increase in BSE return,  $R^2=.95$  represent 95% variance in SENSEX could be predicted, Adjusted  $R^2=.95$  also statistically significant, F-Ratio:  $F(9,62)= 123.898$ ,  $p<.001$  show aver all multiple regression model is statistically significant it means equity funds have impact on capital market.

Descriptive Statistics: Mean return of all nine equity funds are high in relation of SENSEX mean return=.7541 and Birla Sun Life MNC Fund with highest return=1.95 and SBI Blue Chip Fund with lowest return=1.08; three out of nine equity funds have high Standard Deviation showing high risk in comparison with SENSEX Std. Deviation=4.78079 only Tata Ethical Fund has less risky having Std. Deviation=3.63254. The present chapter analysis helps to achieve the second objective and result of study rejects the null hypothesis number one.