



“Performance Evaluation of Selected Small Cap Mutual Funds – An Overview”

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Abstract

A mutual fund is a common pool of money into which investors place their contributions that are to be invested accordance with a stated objective. Investors in India are not aware of investment process and opportunity philosophy of mutual funds. The study deals with the financial performance of selected small cap mutual funds by considering various parameters such as variance, standard deviation, average return, beta, regression and the Sharpe, Treynor and Jensen's models to help advisors suggest the investors in choice of their investment.

This study aims to know about mutual fund market. To study about the performance evaluation of selected small cap mutual funds. To know their risk and return of some selected small cap mutual fund products. To compare the schemes that gives the best return in the taken period. To know the relation between the scheme's return and risk.

Keywords: *Small Cap Mutual Funds, Variance, standard deviation, average return, beta, regression, Sharpe, Treynor, Jensen's models*

INTRODUCTION:

A mutual fund is a common pool of money into which investors place their contributions that are to be invested accordance with a stated objective. The ownership of the fund is through 'joint' or 'mutual', the fund belongs to all investors. Single investor's ownership of the fund is in same proportion as the amount of the contribution made by him or her bears to the total amount of the fund.

The mutual fund industry in India started in 1963 with the formation of unit trust of India, at the initiative of the government of India and reserve bank.

A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal.

The money thus collected is then invested in capital market instruments such as shares, debentures and other securities. The income earned through these investments and the capital appreciation realized is shared by its unit holders in proportion to the number of units owned by them. Thus a mutual fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed basket.

1. The structure of mutual funds in India is governed by SEBI (mutual fund) regulations, 1996.
2. It is mandatory to have a three tier structure of sponsor – trustee – asset Management Company.
3. The trust is established by a sponsor or more than one sponsor who is like a promoter of a company. He appoints the trustees who are responsible to the investors of the fund.
4. The trustees of the mutual funds hold its property for the benefit of the unit holders.
5. Asset management company (AMC) approved by SEBI is the business face of the mutual fund as it manages all the affairs of the fund by making investments in various types of securities.
6. Custodian, who is registered with SEBI, holds the securities of various schemes of the funds in its custody.

Return:

The return can be calculated as under:

$$\text{Portfolio Return} = \frac{\text{Today's NAV Price} - \text{Yesterdays NAV Price}}{\text{Yesterday's NAV Price}} * 100$$

$$\text{Market Return} = \frac{\text{Today's Index Return} - \text{Yesterdays Index Return}}{\text{Yesterday's Index Return}} * 100$$

Beta:

A beta of 1.0 indicates that the investment's price will move in lock-step with the market. A beta of less than 1.0 indicates that the investment will be less volatile than the market. Correspondingly, a beta of more than 1.0 indicates that the investment's price will be more volatile than the market.

Standard Deviation

Standard deviation measures the dispersion of data from its mean. Basically, the more spread out the data, the greater the difference is from the norm. With mutual funds, the standard deviation tells us how much the return on a fund is deviating from the expected returns based on its historical performance.

Sharpe Ratio:

The Sharpe measure is also called the “reward-to-variability” ratio.

$$\text{Sharpe ratio} = \frac{\text{Return of the portfolio} - \text{Risk free rate}}{\text{Standard Deviation of returns of the portfolio}}$$

Treynor Ratio:

The Treynor ratio is given by the following equation:

$$\text{Treynor Ratio} = \frac{\text{Return of the portfolio} - \text{Risk free rate}}{\text{Beta of the portfolio}}$$

Jensen's Alpha:

Alpha = (Return of the portfolio - risk free rate) - Beta of portfolio (return of market - risk free rate)

Regression:

Regression Analysis is used to find equations that fit data. When a **correlation coefficient** shows that data is likely to be able to predict future outcomes and a scatter plot of the data appears to form a straight line, you can use to find a predictive function. If you recall from elementary algebra, the equation for a line is $y = mx + b$. This article shows you how to take data, calculate linear regression, and find the equation $y' = a + bx$. **Note:** If you're taking AP statistics, you may see the equation written as $b_0 + b_1x$, which is the same thing (you're just using the variables $b_0 + b_1$ instead of $a + b$).

$$a = \frac{(\sum y)(\sum x^2) - (\sum x)(\sum xy)}{n(\sum x^2) - (\sum x)^2}$$

$$b = \frac{n(\sum xy) - (\sum x)(\sum y)}{n(\sum x^2) - (\sum x)^2}$$

Objectives of the Study:

- To identify the performance of small cap mutual fund schemes.
- To compare the risk and return of the selected small cap mutual fund.
- To analysis the risk return parameter for mutual fund and rank the selected small capfunds through Sharpe, Treynor and Jensen's models.

Scope of the study:

- The NAV of the selected scheme have been compared for three years with quarterreturns.
- Then these schemes have been compared with the bench mark return i.e., nifty50 to evaluate the performance of these equity schemes.
- The risk free rate is taken on the average of 10 years bond which leads to be 7%.

Research methodology:

- Type of research: For this research study descriptive research design has been applied
- Data collection is secondary data sources of information.
- Method of collecting the secondary data was collected from the Money control.com
- Initially this study tries to evaluate the performance of the 9 small cap mutual fundschemes from the data of 3 years i.e., 2019, 2020 and 2021.

Tools and techniques:

Analysis has been done by using following statistical tools are, Sharpe Ratio, Treynor Ratio, Jensen Ration, Beta and Standard Deviation.

Hypothesis:

Null Hypothesis (H₀): There is no relationship between risk and return of the selected small cap mutual fund.

Alternate Hypothesis (H₁): There is relationship between risk and return of the selected small cap mutual fund.

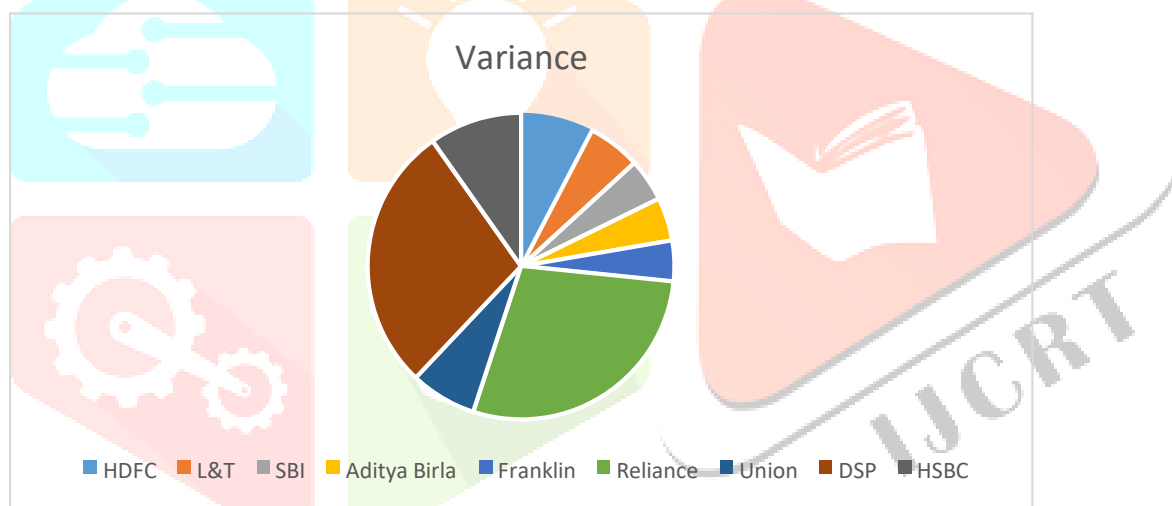
Table No: 01

Table showing variance of different small cap mutual fund scheme.

Mutual fund schemes	Variance
HDFC Small Cap Fund	45585.93232
L&T Emerging Business Fund	33087.02755
SBI Small cap Fund	26796.41475
Aditya Birla Sun Life Small Cap Fund	27165.87864
Franklin India Smaller Companies Fund	25683.69157
Reliance Small Cap Fund	169161.8868
Union Small Cap Fund	41559.67983
DSP Small Cap Fund	167451.6867
HSBC Small Cap Fund	58275.93476

Graph No: 01

Graph showing variance of different small cap mutual fund scheme

**Interpretation:**

As we can see in the above graph the Reliance Small Cap Fund has the highest variance (169161.8868) and Franklin India Smaller Companies Fund has the least variance (25683.69157).

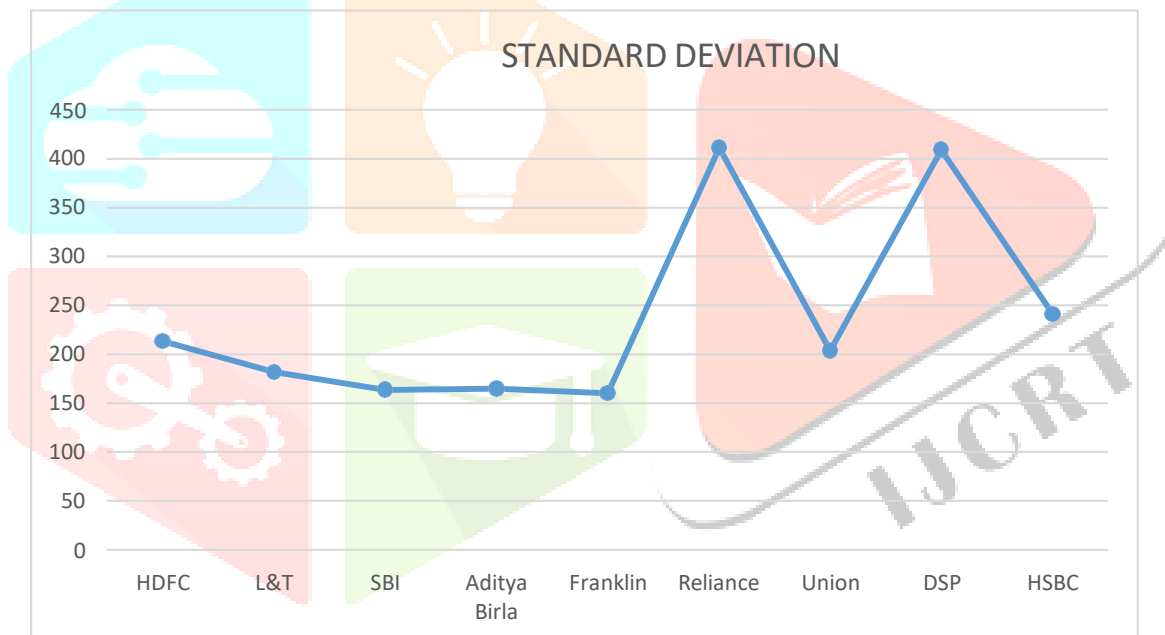
Table No: 02

Table showing standard deviation of different small cap mutual fund scheme.

Mutual fund schemes	Standard Deviation
HDFC Small Cap Fund	213.5086235
L&T Emerging Business Fund	181.898399
SBI Small cap Fund	163.6961049
Aditya Birla Sun Life Small Cap Fund	164.820747
Franklin India Smaller Companies Fund	160.2613228
Reliance Small Cap Fund	411.2929452
Union Small Cap Fund	203.8619136
DSP Small Cap Fund	409.2086102
HSBC Small Cap Fund	241.4040902

Graph No: 02

Graph showing standard deviation of different small cap mutual fund scheme

**Interpretation:**

As we can see in the above graph the Reliance Small Cap Fund has the highest Standard Deviation (411.2929452) and Franklin India Smaller Companies Fund has the least Standard deviation (160.2613228).

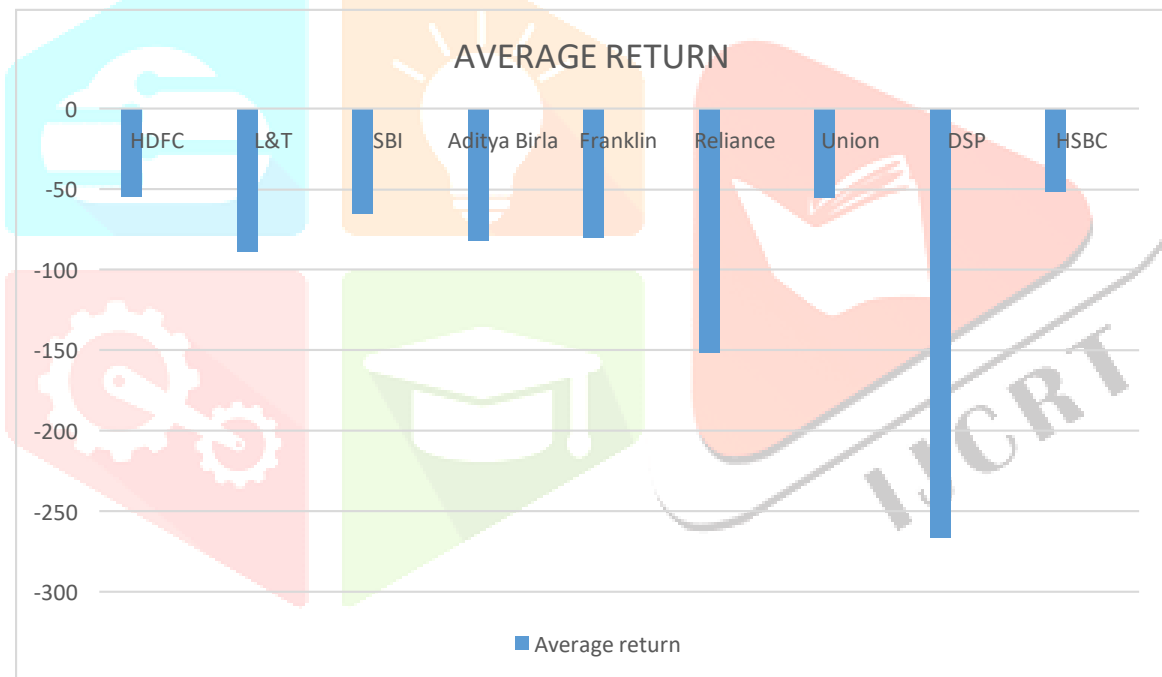
Table No: 03

Table showing Average return of different small cap mutual fund scheme.

Mutual fund schemes	Average return
HDFC Small Cap Fund	-54.77628323
L&T Emerging Business Fund	-88.82366266
SBI Small cap Fund	-65.4770712
Aditya Birla Sun Life Small Cap Fund	-82.3748448
Franklin India Smaller Companies Fund	-80.43996782
Reliance Small Cap Fund	-151.7730968
Union Small Cap Fund	-55.14034492
DSP Small Cap Fund	-266.6464381
HSBC Small Cap Fund	-51.60048628

Graph No: 03

Graph showing Average return of different small cap mutual fund scheme.

**Interpretation:**

As we can see in the above graph the HSBC Small Cap Fund has the highest average return (-51.60048628) and DSP Small Cap Fund has the least average return (-266.6464381).

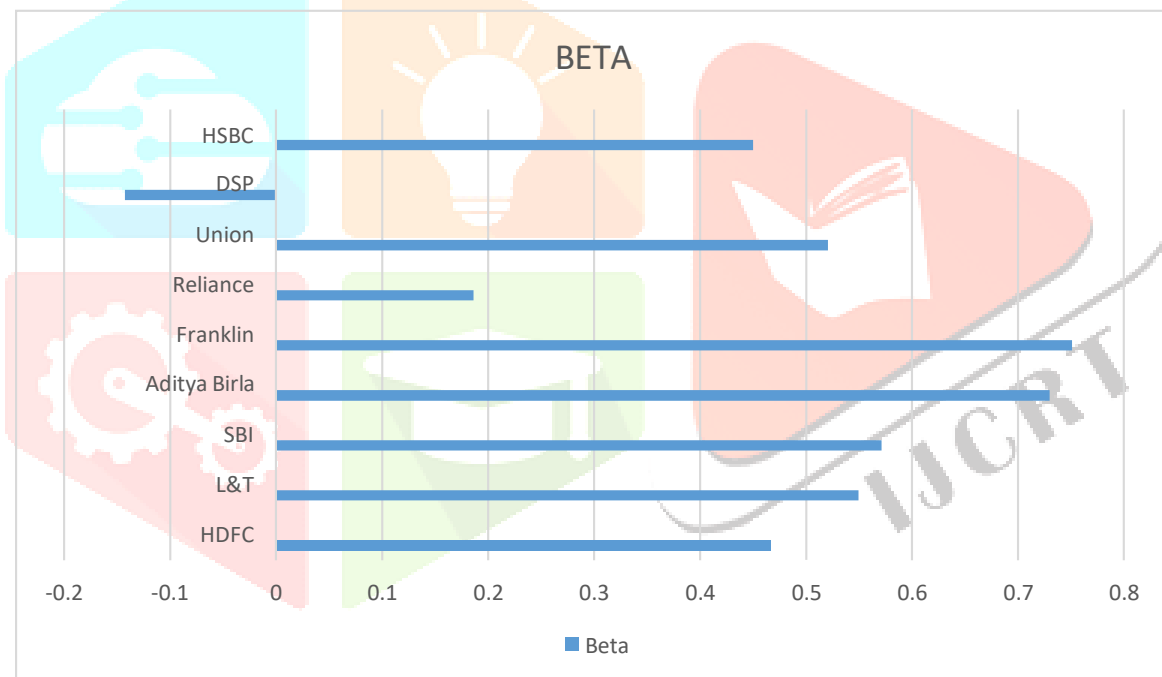
Table No: 04

Table showing Beta of different small cap mutual fund scheme.

Mutual fund schemes	Beta
HDFC Small Cap Fund	0.466313107
L&T Emerging Business Fund	0.549556263
SBI Small cap Fund	0.571463794
Aditya Birla Sun Life Small Cap Fund	0.729604013
Franklin India Smaller Companies Fund	0.750651195
Reliance Small Cap Fund	0.186208945
Union Small Cap Fund	0.520649332
DSP Small Cap Fund	-0.142405772
HSBC Small Cap Fund	0.449998074

Graph No: 04

Graph showing Beta of different small cap mutual fund scheme.

**Interpretation:**

As we can see in the above graph the Franklin India Smaller Companies Fund has the beta(0.750651195) and DSP Small Cap Fund has the least beta (-0.142405772).

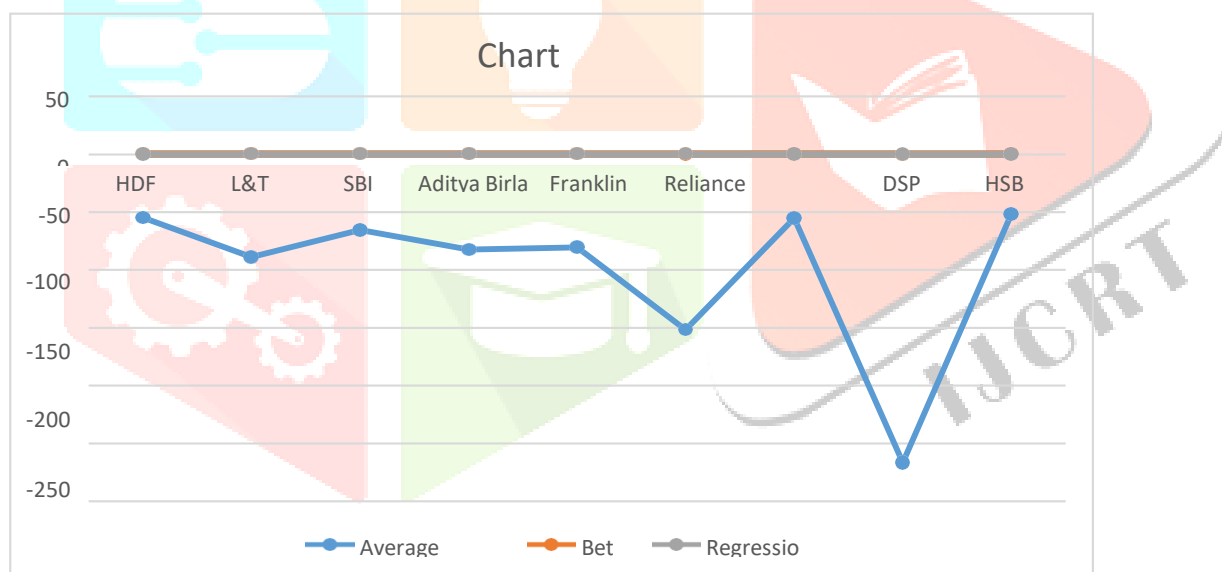
Table No: 05

Table showing relation between average return and risk through regression of different smallcap mutual fund scheme.

Mutual fund schemes	Average return	Beta	Regression
HDFC Small Cap Fund	-54.77628323	0.466313107	0.329720603
L&T Emerging Business Fund	-88.82366266	0.549556263	0.73368942
SBI Small cap Fund	-65.4770712	0.571463794	0.645082394
Aditya Birla Sun Life Small Cap Fund	-82.3748448	0.729604013	0.424847743
Franklin India Smaller Companies Fund	-80.43996782	0.750651195	0.428205537
Reliance Small Cap Fund	-151.7730968	0.186208945	0.809326243
Union Small Cap Fund	-55.14034492	0.520649332	0.273052375
DSP Small Cap Fund	-266.6464381	-0.14240577	0.036764037
HSBC Small Cap Fund	-51.60048628	0.449998074	0.188266083

Graph No: 05

Graph showing relation between average return and risk through regression of different smallcap mutual fund scheme.

**Interpretation:**

As we can see in the above graph the HSBC Small Cap Fund has the highest average return (-51.60048628) and DSP Small Cap Fund has the least average return (-266.6464381).

The Franklin India Smaller Companies Fund has the highest beta (0.750651195) and DSP Small Cap Fund has the least beta (-0.142405772).

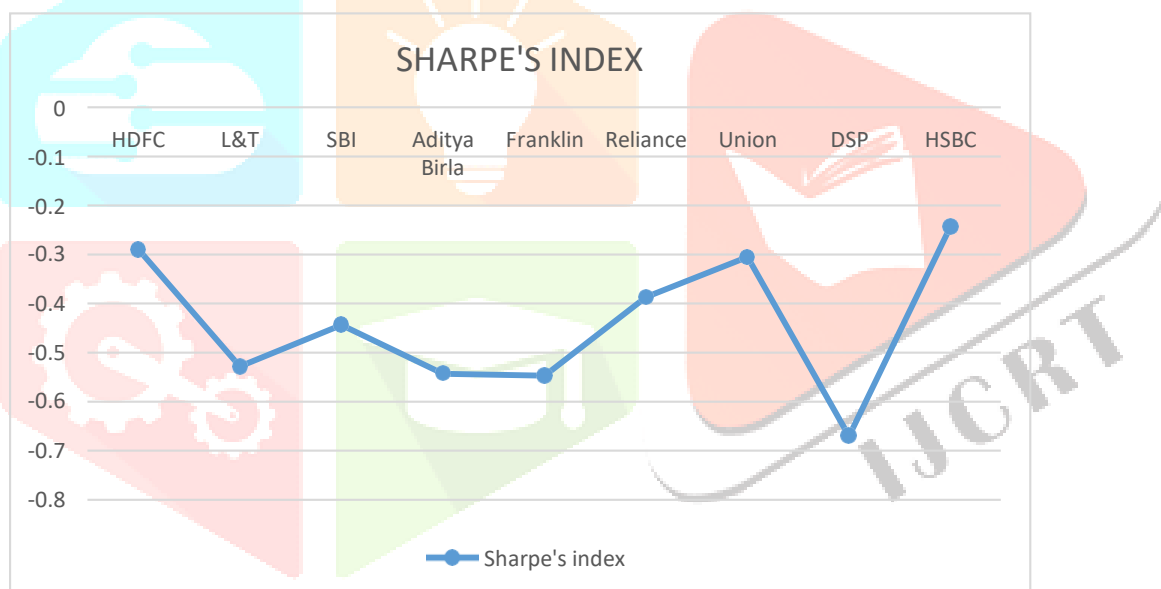
Table No: 06

Table showing Sharpe's index of different small cap mutual fund scheme.

Mutual fund schemes	Sharpe's Index	Rank
HDFC Small Cap Fund	-0.289338586	2
L&T Emerging Business Fund	-0.526797724	6
SBI Small cap Fund	-0.442753792	5
Aditya Birla Sun Life Small Cap Fund	-0.542254822	7
Franklin India Smaller Companies Fund	-0.545608674	8
Reliance Small Cap Fund	-0.386034087	4
Union Small Cap Fund	-0.304815862	3
DSP Small Cap Fund	-0.668721115	9
HSBC Small Cap Fund	-0.242748523	1

Graph No: 06

Graph showing Sharpe's index of different small cap mutual fund scheme.

**Interpretation:**

As we can see in the above graph in the Sharpe's index the fund that got 1st rank is HSBC Small Cap Fund and the fund that got the last rank is DSP Small Cap Fund.

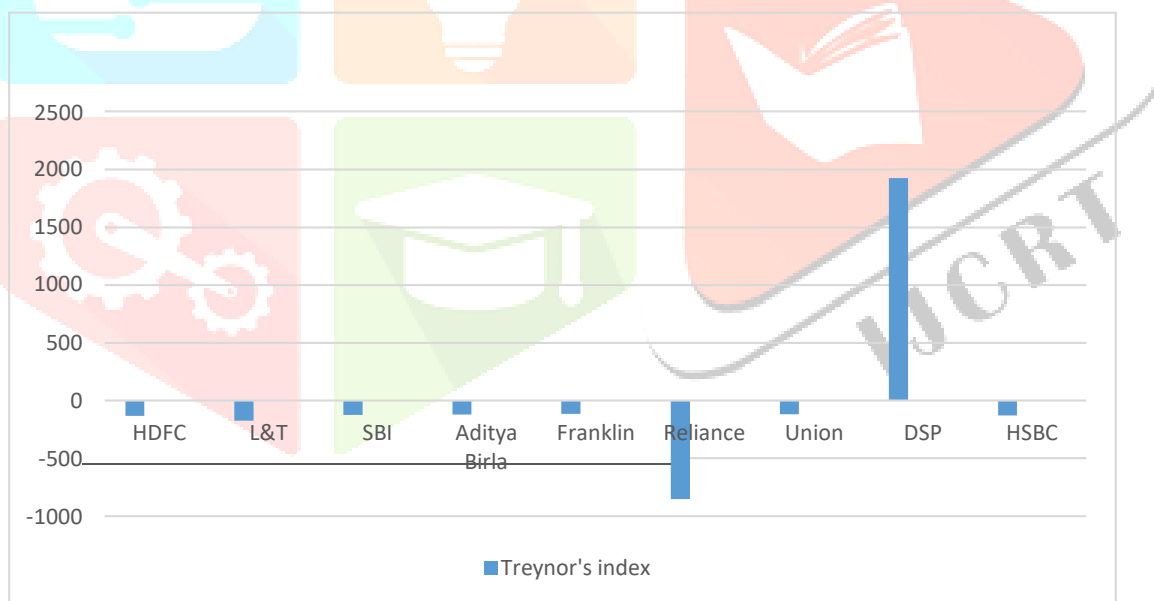
Table No: 07

Table showing Treynor's index of different small cap mutual fund scheme.

Mutual fund schemes	Treynor's Index	Rank
HDFC Small Cap Fund	-132.4781188	7
L&T Emerging Business Fund	-174.3655183	8
SBI Small cap Fund	-126.827057	5
Aditya Birla Sun Life Small Cap Fund	-122.497743	4
Franklin India Smaller Companies Fund	-116.4854841	2
Reliance Small Cap Fund	-852.6609532	9
Union Small Cap Fund	-119.351627	3
DSP Small Cap Fund	1921.596538	1
HSBC Small Cap Fund	-130.2238603	6

Graph No: 07

Graph showing Treynor's index of different small cap mutual fund scheme.

**Interpretation:**

As we can see in the above graph in the Treynor's index the fund that got 1st rank is DSP Small Cap Fund and the fund that got the last rank is Reliance Small Cap Fund.

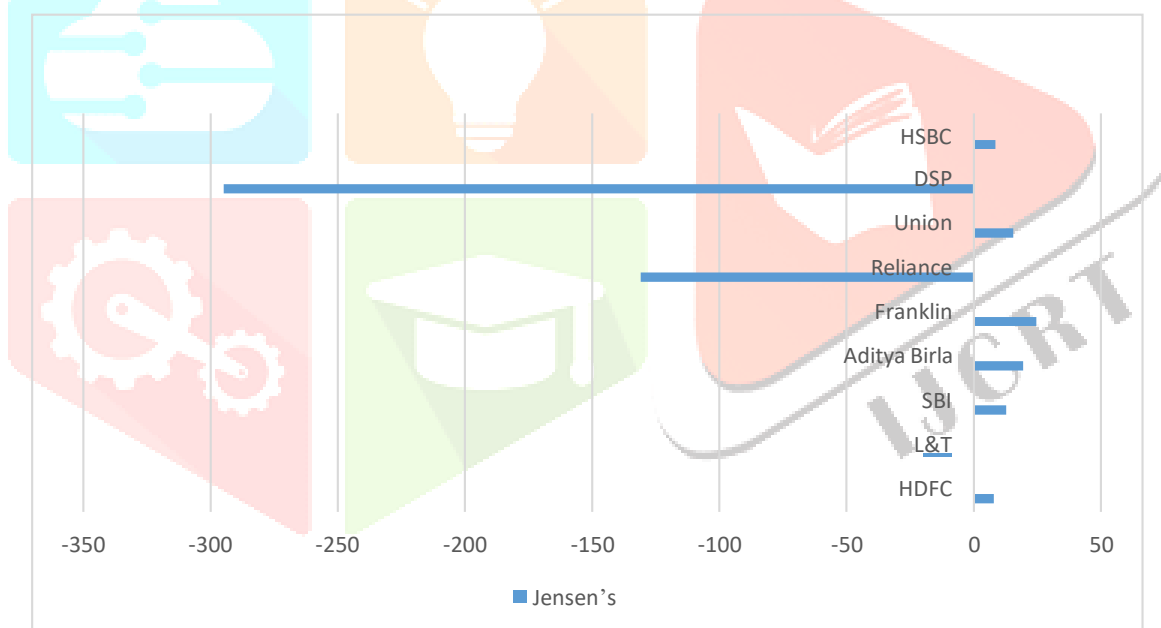
Table No: 08

Table showing Jensen's index of different small cap mutual fund scheme.

Mutual fund schemes	Jensen's Index	Rank
HDFC Small Cap Fund	7.778050541	6
L&T Emerging Business Fund	-13.85294566	7
SBI Small cap Fund	12.76132946	4
Aditya Birla Sun Life Small Cap Fund	19.45143571	2
Franklin India Smaller Companies Fund	24.52566841	1
Reliance Small Cap Fund	-130.9985416	8
Union Small Cap Fund	15.51867188	3
DSP Small Cap Fund	-294.8873992	9
HSBC Small Cap Fund	8.520329588	5

Graph No: 08

Graph showing Jensen's index of different small cap mutual fund scheme.

**Interpretation:**

As we can see in the above graph in the Jensen's index the fund that got 1st rank is FranklinIndia Smaller Companies Fund and the fund that got the last rank is DSP Small Cap Fund.

CONCLUSION:

Mutual Fund is the only opportunity many investors have for investing in an intelligent diversified manner. The most important considerations while making investment decision was return aspect followed by safety, liquidity, and taxability. On the basis of the analysis the performance of the study can be concluded to be good and those who want to eliminate risk element and want to reap better return than it would be advisable to go for debt or arbitrage schemes, which ensures both return and safety. Small investors, who neither have ability nor expertise, should go for the Mutual Fund. There will be various stocks among that they should select the right one and keep track of the investment made.

In order to get good return investors should have proper information of the funds and their asset management companies where they are investing. So it is necessary investors should contact the advisory securities for knowing which fund gives good return for their investment.

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