An Empirical Study on Performance of Equity Mutual Funds (With Special Reference to Large Cap, Mid Cap Funds And Diversified Funds)

#Dr. Partap Singh Chahal
Associate Professor, Deptt. of Management Studies, Samalkha Group of Institutions (SGI), Samalkha, Panipat, Haryana
Email: partapchahal@gmail.com

Abstract- Mutual Fund is the most suitable investment for the ordinary man as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a comparatively low cost. MFs are witnessing such high inflows nearly a decade after the 2008 financial crisis, which saw investors turning away from equities. The Assets under Management (AUM) of the Indian mutual fund (MF) industry witnessed an excellent growth of 42% in financial year 2017. AUM grew from Rs. 12.3 lakh crore in March 2016 to Rs. 17.5 lakh crore in March 2017. The present paper focused on the study of the performance of selected equity large cap, small cap& mid and diversified equity mutual fund categories and schemes. The paper also analyzed with risk return measurement tools such as alpha, beta, standard deviation and variance.

Keywords: Large Cap, Small& Mid Cap, Diversified Cap Mutual Funds, Risk, Return, and Assets under Management (AUM)

I.INTRODUCTION

Since 1996-97, the mutual fund industry achieved newer heights in terms of mobilization of funds as well as number of players. Deregulation and liberalization of the Indian economy brought competition and higher potential for the growth of the industry. A mutual fund may be defined as a professionally managed investment fund or trust that pools the savings of a number of investors who share a common financial goal and the money so collected is invested in stock market instruments like shares, debentures, and other securities. The return earned through these investments is shared by its unit holders in proportion to the number of units owned by them. Investments in securities are spread across a wide cross section of industries and sectors to reduce the risk. It means the concept of diversification risk management strategy is followed. Asset Management Companies (AMCs) usually come out with a number of schemes with different investment objectives from time to time. A mutual fund is mandatory to be registered with the Securities and Exchange Board of India (SEBI), which regulates securities markets before it can collect funds from the public.

Mutual fund was originated from a financial crisis that spread over a period of time Europe in the early 1770s.The first modern investment funds (the originator of today's mutual funds) were established in the Dutch Republic. Mutual funds were introduced to the United States in the 1890s. Near the beginning U.S. funds were usually closed-end funds with a fixed number of shares that regularly traded at prices above the portfolio net asset value. The first open-end mutual fund with redeemable shares was established on March 21, 1924 as the Massachusetts Investors Trust. (It is still in existence today and is now managed by MFS Investment Management). In the United States, closed-end funds remained more popular than open-end funds throughout the 1920s. In 1929, open-end funds accounted for only 5% of the industry's $27 billion in total assets.

The mutual fund industry came into existence in 1963 in India with the development of Unit Trust of India (UTI) at the initiative of the Reserve Bank of India (RBI) and the Government of India. At that time, the objective was to attract small investors and introduce them to market investments. Since then, the history of mutual funds in India can be largely divided into six distinct phases.

1987 marked the entry of non-UTI, public sector mutual funds set up by public sector banks, Life Insurance Corporation of India (LIC) and General Insurance Corporation of India (GIC). SBI Mutual Fund was the first non-UTI Mutual Fund introduced in June 1987 followed by Canbank Mutual Fund (1987), Punjab National Bank Mutual Fund (1989), Indian Bank Mutual Fund (1989), Bank of India (1990), and Bank of Baroda Mutual Fund (1992). LIC established its mutual fund in June 1989 while GIC had set up its mutual fund in December 1990.

The mutual fund industry had assets under management of Rs. 47,004 crores at the end of 1993. A new era started in the Indian mutual fund industry, giving the Indian investors a wider choice of fund families with the entry of private sector funds in 1993. From 2004-05 onwards, the industry has lately witnessed a spate of mergers and acquisitions, most recent ones being the acquisition of schemes of Allianz Mutual Fund by Birla Sun Life, PNB Mutual Fund by Principal, among others. At the same time, more international players continue to enter India including Fidelity, one of the largest funds in the world.

The Assets under Management (AUM) of the Indian mutual fund (MF) industry witnessed an excellent growth of 42% in financial year 2017. AUM grew from Rs. 12.3 lakh crore in March 2016 to Rs. 17.5 lakh crore in March 2017. The growth can be attributed to strong retail participation and overall market gains. The net inflows in Liquid, Income and Equity (including Equity Linked Savings Schemes or ELSS) categories have been to the tune of Rs. 1.2 lakh crore, Rs. 0.96 lakh crore, and Rs. 0.70 lakh crore, respectively.

Equity funds (including ELSS) witnessed net inflows of Rs. 8,216 crore in March 2017 compared with Rs. 6,462 crore in February 2017. In March 2017, the assets of Equity funds (including ELSS) reached an all-time high of Rs. 5.4 lakh crore. Retail The participation in the Equity category is high because of the popularity of the Systematic Investment Plan (SIP) route. The total folio count at the end of March 2017 stood at 5.54 crore, 1.9% higher than February 2017, according to data from the Securities and Exchange Board of India (SEBI).The mutual fund industry added 77.4 lakh new folios or around 6.4 lakh new folios every month in financial year 2017 regardless of volatility in overall market conditions.

II.REVIEW OF LITERATURE

Bhagyashree and Kishori (2016) evaluated the performance of 30 mutual fund schemes selected randomly. Closing NAV's for each day was noted for a period of five years. Findings of the study show that Tata Equity Opportunity funds gave maximum returns while Reliance growth funds had minimum return. 14 out of 30 schemes had less risk than market risk, rest all the schemes have greater risk than market. 8 schemes have beta value greater than one which signifies that they have high risk. All the funds studied have positive value of Sharpe ratio, 14 funds had Sharpe ratio greater than benchmark portfolio. Top three funds in terms of Sharpe ratio were Tata Equity opportunities funds, HDFC large cap fund and Franklin India flexi cap fund.

Goyal (2015) studied top 10 equity diversified mutual funds in India as per Crisil September 2014. The funds chosen were Birla Sun Life Top 100 Fund, BNP Paribas Equity Fund, SBI Blue Chip Fund, UTI Equity Fund, Birla Sun Life Frontline Equity Fund, BOI AXA Equity Fund, Canara Robeco Large Cap+ Fund, Franklin India Opportunities Fund, Kotak Opportunities, L&T Equity Fund. Performance of these funds was also compared with S&P CNX Nifty. The study concluded that average returns of mutual fund schemes are better than benchmark indices return. It also pointed out that standard deviation of mutual fund schemes are higher. Franklin India mutual fund was reported to give best return. It has low variation in return and high sharp ratio, Treynor ratio and Jensen alpha.

Ruahal S. (2013) studied five categories of mutual funds namely large cap, infrastructure, hybrid, multi cap and mid & small cap. Three schemes from each category was chosen and compared on the basis of their performance using statistical tools like standard deviation, beta, alpha, R squared, sharpe ratio. It was reported that all the schemes gave a positive return. Midcap and small cap performed superiorly over benchmark, large and hybrid funds. Risk analysis revealed that hybrid funds had low overall risk as compared to other funds because they had large proportion of debt funds in their portfolio.

Large cap funds and consumption funds witnessed least deviation of returns from benchmark and thereby had lower beta. Overall mutual fund investment proofed to be a good avenue for the time period 2013 to 2014.

Dhanda SK (2012) has studied the performance evaluation of selected open ended schemes in terms of risk and return relationship by using rate of return, Beta, Standard Deviation, Sharp Ratio and Treynor Ratio. BSE-30 has been used as a benchmark to study the performance of mutual fund in India and the study period has been taken from April 1, 2009 to March 31, 2011. The finding of the study revealed that only three scheme have performed better than benchmark.

Prince V, Bacon L (2010) had found that the small cap growth stock sector of mutual fund industry against risk-free and market returns over the ten years 1997-2006. In this paper result were tested against a toolkit of performance of benchmarks to see if expected performance closely corresponds to actual results. The results indicated that some excess returns have been generated however beyond a handful of the funds, it is impossible to rely upon a single benchmark as a reliable indicator of even past performance. The evidence tends to support market efficiency since for the most part, the actively managed funds examined in this study produced returns that were largely expected.

Gohar R, Ahmed S, Niazi U (2011) had compared the performance of different types of mutual funds in Pakistan and concluded that equity funds outperform income funds. Sample has been selected on the ranking of companies as per Pakistan Credit Rating Agency (PACRA) and the data will be collected for five years from 2005 to 2009 on monthly basis. The finding showed that within equity funds, broker backed category shows better performance than institutional funds and institutional funds are outperforming broker backed funds among income funds.

Noulas and Athanasios(2005) had studied the performance of Greek equity funds during the period 1997- 2000. The evaluation was based on the analysis of risk and return. The first three years were characterized by positive returns of the stock market and the fourth year was year of rapid fall of the stock market with respect to A Study on the Performance of Equity Mutual Funds (With special reference to equity large cap and .. DOI: 10.9790/487X-1902026772 www.iosrjournals.org 68 | Page risk and return. The result showed that there were big differences among the equity mutual funds with respect to risk and return and the result indicated that there was a positive relation between risk and return for the whole period while the betas for all funds were smaller than one.

Rao Narayan and Ravindram(**2002)** had evaluated the performance evaluation of Indian mutual fund industry in a bear market was carried out through relative performance index, risk-return analysis, Treynor's ratio, Sharpe's ratio, Jensen's ratio and Fama's measure. The data was monthly closing NAV's collected from AMFI for the period of Sep. 98 to April 02 (bear period) of 269 open ended scheme. They excluding the funds whose return were less than risk free returns, 58 schemes were used for further analysis. The result of relative measures suggested that most of the mutual fund schemes in the sample of 58 were able to satisfy investor's expectation by giving excess returns over expected returns based on both premiums for systematic risk and total risk.

III.RESEARCH METHODOLOGY

Research Objectives

i. To study the performance of Large Cap, Mid Cap and Diversified Equity Mutual Funds in Short –term, mid-term, and long-term.
ii. To make comparative analysis of the performance of market benchmark with these three categories mutual funds.
iii. To examine comparative performance analysis of the equity funds.

Data Collection: The paper is based on secondary data only. The study period has been taken of 5years. 20 Mutual Funds have been selected under each 'Cap' to compare with Nifty index.

Statistical Tools:

To analysis of data, the various statistical tools like mean, standard deviation, variance, The compound annual growth rate (CAGR), β and α.

The Compound Annual Growth Rate (CAGR): It has been used to measure return growth over multiple time periods. It is the growth rate that starts from the initial investment value to the ending investment value which has been compounding over the time period.

The formula for CAGR is:

$CAGR = (EV / BV)^{\frac{1}{n}} - 1$

Where EV = Investment's ending value BV = Investment's beginning value n = Number of periods (months, years, etc.)

CAGR is a better measure of an investment's return over time. Average annual return ignores the effects of compounding and it can overestimate the growth of an investment.

Beta (β or beta coefficient)

β is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the overall market. It is used in the capital asset pricing model (CAPM) to calculate the expected return of an asset based on its beta and expected market returns. It indicates whether the investment is more or less volatile than the market as a whole. It indicates how much a fund's performance would swing compared to benchmark. The market is described as having a beta of 1.

Value of Beta	Interpretation
$\beta < 0$	Asset movement is in the opposite direction of the benchmark
$\beta = 0$	Asset movement is uncorrelated to the benchmark
$0 < \beta < 1$	Asset moves in the same direction, but in a lesser amount than the benchmark
$\beta = 1$	Asset moves in the same direction and in the same amount as the benchmark
$\beta > 1$	Asset moves in the same direction, but in a greater amount than the benchmark

Formula: β is calculated by using Regression model wherein it measures the value of dependent variable in response to unit change in the independent variable.

$Y = \alpha + \beta X$

Y= Dependent Variable; X= Independent Variable; α & β are constant.

$$\beta = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum Y)^2}$$

Alpha (α): Alpha or Jensen Index was developed by Michael Jensen in the 1970**.** Alpha measures how well an investment performed as compared to its benchmark. An alpha of 1% means the investment's return on investment over a selected period of time was 1% better than the market during that same period; an alpha of -1 means the investment underperformed the market.

Formula:

$$\alpha = (\text{Mean Y}) - \beta\ (\text{Mean X})$$

Theoretical Framework

Large Cap: Equity funds that invest > 75% in CRISIL-defined Large Cap Stocks for a minimum of six out of nine months in each period over the past 3 years.

Small & Mid Cap: Funds that invest < 45% in CRISIL-defined Large Cap Stocks for a minimum of six out of nine months in each period over the past 3 years.

Diversified Equity: Equity funds which are not specifically Large Cap or Small & Midcap oriented funds and will not include sector funds. These are Multi-cap mutual funds which can invest in stocks across market capitalization. The scheme's assets can be invested in shares of large, medium (or) small size companies.

Equity Mutual Funds primarily invest in stocks *(company shares)* and they are often grouped by the size of the companies they invest in – big, small or tiny. By size we mean a company's value on the stock market which is known as 'Market Capitalization' (or) Cap size. *('Cap' or 'market-cap' here simply stands for Market Capitalization)*

Market Capitalization = Current Market Price of share x Total number of Shares outstanding

(Outstanding shares = total number of shares in circulation (held) by shareholders)

IV. RESULTS& DISCUSSINS

Analysis of Risk and Return regarding large, Small & Mid, and Diversified Cap Mutual Funds Scheme

Table I Showing Risk and Return Measurement of Large Cap, small& mid cap, and diversified cap - Returns (in %) - as on Jan 05, 2018

Mutual Fund Schemes	*** Returns over 1 year are Annualized (%)**								
	1 year	**2 year**	**3 year**	**5 year**	**Mean**	**Std. Deviation**	**Variance**	**β**	**Alpha(α)**
Nifty(X)	27.6	16.5	8.0	12.0	16.03	8.46	71.60		
Large Cap Category Average Return(Y1)	31.7	18.0	10.4	13.7	18.45	9.37	87.71	1.10	0.817
Small& Mid Cap Category Average Return(Y2)	39.1	21.3	13.2	12.3	21.48	12.43	145.44	1.43	1.44
Diversified Cap Category Average Return(Y3)	29.5	17.6	10.5	10.0	16.90	9.09	82.61	1.05	0.07
Mean	31.98	18.35	10.53	12.00					

Source: Compiled data from www.moneycomtrol.com

Calculation of Mean, Std. Deviation, and Variance Statistics

		VAR00001	**VAR00002**	**VAR00003**	**VAR00004**
N	Valid	4	4	4	4
	Missing	0	0	0	0
Mean		31.9750	18.3500	10.5250	12.0000
Std. Deviation		5.03678	2.06640	2.12505	1.52534
Variance		25.369	4.270	4.516	2.327

Calculation of BETA (β) and Alpha (α)

Formula	xy_1	xy_2	xy_3
Upper	947.5	1229.05	901.24
Lower	859.23	859.23	859.23
Answer	1.102731515	1.430409	1.048893

Calculation of Alpha (α):

Nifty(X) and Large Cap Category Average Return(Y1)	Nifty(X) and Large Cap Category Average Return(Y2)	Nifty(X) and Large Cap Category Average Return(Y3)
α = Mean(Y) – β (Mean X) =18.45 – 1.10(16.03) =0.817	α = Mean(Y) – β (Mean X) =21.48 – 1.43(16.03) =1.44	α = Mean(Y) – β (Mean X) =16.90– 1.05(16.03) =0.07

Table I exhibits that:

- The annualized returns of Large Cap Category- Average Return is 13.7 percent in 5 years, 10.4 percent in 3 years, 18.0 percent in 2 years and 31.7 percent in the 1st year as compared to Nifty is 12.0 percent in 5 years, 8.0 percent in 3 years, 16.5 percent in 2 years and 27.6 percent in the 1st year. Similarly, annualized returns of Small& Mid Category- Average Return is 12.3 percent in 5 years, 13.2 percent in 3 years, 21.3 percent in 2 years and 39.1 percent in the 1st year as compared to Nifty is 12.0 percent in 5 years, 8.0 percent in 3 years, 16.5 percent in 2 years and 27.6 percent in the 1st year. On the other hand, annualized returns of Small& Mid Category- Average Return is 10.0 percent in 5 years, 10.5 percent in 3 years, 17.6 percent in 2 years and 29.5 percent in the 1st year as compared to Nifty is 12.0 percent in 5 years, 8.0 percent in 3 years, 16.5 percent in 2 years and 27.6 percent in the 1st year.
- The average returns of all categories are 12 percent in 5 years, 10.53 percent in 3 years, and 18.35 percent in 2 years and 31. 98 percent is in the 1st year. On the other hand, the average returns 16.03 percent of Nifty, 18.45 percent of Large Cap Category mutual funds, 21.48 percent of Small& Mid Cap Category mutual funds, 16.90 percent of diversified Cap Category mutual funds are during study period.
- The diversified cap category has lowest standard deviation and variance whiles the small& mid cap category has highest standard deviation and variance. The large cap category has the moderate standard deviation and variance.
- The Small& Mid Cap Category has highest value of β that is 1.43 which is greater than 1. It means the Small& Mid Cap Category average return is 43% more volatile than nifty average return. (Or market return). Here, Asset moves in the same direction, but in a greater amount than the benchmark.
- The diversified Cap Category has lowest value of β that is 1.05 which is greater than 1. It means the diversified Cap Category average return is 5% more volatile than nifty return (or market return). Here, Asset moves in the same direction, but in a greater amount than the benchmark.
- The large Cap Category has moderate value of β that is 1.10 which is greater than 1. It means the Small& Mid Cap Category average return is 10% more volatile than nifty average return or (market return). Here, Asset moves in the same direction, but in a greater amount than the benchmark.
- The Small& Mid Cap category has highest value of Alpha (α) that is 1.44. It means the investment's return on investment in the Small& Mid Cap category mutual funds over a selected period of time is better than the market (Nifty) during that same period. Similarly, the large Cap category has moderate value of Alpha (α) that is 0.817. It means the investment's return on investment in the large Cap Category mutual funds over a selected period of time is better than the market (Nifty) during that same period. Further, the Diversified Cap Category has highest value of Alpha (α) that is 1.44. It means the investment's return on investment in the diversified Cap category mutual funds over a selected period of time is better than the market (Nifty) during that same period. Similarly,

- So, It has been found that small& mid cap category mutual fund schemes have given highest average return while diversified cap category mutual fund schemes has given lowest average return. During same period, large cap category mutual fund schemes has given moderate average return or greater than diversified cap category average return and less than large cap category average return.
- The small& mid cap category ranked at 1st, large cap category rand at 2nd and diversified category ranked at 3rd in terms of *risk& return* during the study period. The small& mid cap category has highest risk and has highest return while The small& mid cap category has highest risk and has highest return while the diversified category has lowest risk and has lowest return. The large cap category has moderate risk and has moderate return.
- All categories caps have performed better than market or nifty.

Table II showing Calculation of correlation

S.No.	Σx	Σy_1	Σy_2	Σy_3	xy_1	xy_2	xy_3	Σx^2	Σy_1^2	Σy_2^2	Σy_3^2
1	27.6	31.7	39.1	29.5	874.92	1079.16	814.2	761.76	1004.89	1528.81	870.25
2	16.5	18	21.3	17.6	297	351.45	290.4	272.25	324	453.69	309.76
3	8	10.4	13.2	10.5	83.2	105.6	84	64	108.16	174.24	110.25
4	12	13.7	12.3	10	164.4	147.6	120	144	187.69	151.29	100
Sum	**64.1**	**73.8**	**85.9**	**67.6**	**1419.52**	**1683.81**	**1308.6**	**1242.01**	**1624.74**	**2308.03**	**1390.26**

$(\Sigma x)^2$	$(\Sigma y_1)^2$	$(\Sigma y_2)^2$	$(\Sigma y_3)^2$
4108.81	5446.44	7378.81	4569.76

Formula	xy_1	xy_2	xy_3
Upper	947.5	1229.05	901.24
Lower	904356.76	1592420	851738
Square Root	950.97674	1261.91	922.896
Answer	0.996344	0.97396	0.97653

Table III exhibits the large cap category is highest correlated with Nifty as compared to other two while diversified category cap are moderate correlated as compared to the other two categories. On the other hand, small& mid category cap is lowest.

Analysis of Risk and Return of 20 Mutual Funds Schemes under Large Cap Category

Table IV showing Annualized Return of 20 Mutual Funds Schemes Large Cap Category - Returns (in %) - as on Jan 05, 2018

Mutual Fund Schemes	Crisil Rank	AUM (Rs. cr.) Sep 17	1mth	3mth	6mth	1yr	2yr	3yr	5yr
							* Returns over 1 year are Annualized		
IDFC Imperial Equity - Regular (G)	Rank 2	299.10	5.0	10.4	18.5	54.1	27.5	14.6	15.3
Reliance Vision Fund - RP (G)	Rank 3	3,170.08	4.7	12.8	17.2	40.1	22.5	12.5	17.5

Reliance Top 200 - Direct (G)	Rank 3	530.18	5.1	11.8	14.5	39.8	21.9	13.7	18.9
Reliance Top 200 Fund-RP (G)	Rank 2	3,606.79	5.0	11.5	13.8	38.3	20.6	12.6	17.9
Escorts Growth Plan (G)	Not Ranked	4.39	6.1	13.7	16.8	38.1	17.3	15.4	20.1
JM Multi Strategy Fund (G)	Not Ranked	144.05	5.7	4.9	10.5	36.6	25.2	14.1	18.0
Kotak Select Focus Fund - Direct (G)	Rank 1	3,206.70	4.4	7.0	10.6	34.0	23.5	15.9	21.3
Escorts Leading Sectors (G)	Not Ranked	3.25	6.5	12.4	18.4	33.8	20.0	18.8	21.9
HDFC Top 200 Fund (G)	Rank 3	12,909.79	3.9	9.5	11.2	30.9	21.1	10.3	15.0
Kotak Select Focus Fund - Regular (G)	Rank 1	9,867.01	4.3	6.7	10.0	32.4	22.0	14.6	20.1
ICICI Pru Focused Bluechip Eqty (G)	Rank 2	11,339.63	4.6	9.0	13.9	31.3	20.8	12.4	16.9
ABSL Top 100 - Direct (G)	Rank 1	768.18	4.8	6.4	10.8	31.2	20.6	12.7	18.5
ABSL Frontline Eqty-Direct (G)	Rank 2	4,519.20	5.2	7.0	10.5	31.1	20.8	13.3	18.2
ABSL Top 100 (G)	Rank 1	2,480.75	4.7	6.1	10.1	29.6	19.2	11.5	17.4
ABSL Frontline Equity (G)	Rank 2	14,203.54	5.2	6.7	9.9	29.6	19.6	12.1	17.1
ICICI Pru Top 100 Fund (G)	Rank 2	2,173.97	4.8	10.3	12.7	28.6	20.6	12.6	16.6
SBI Blue Chip Fund (G)	Rank 2	11,360.65	4.5	8.0	10.2	28.8	18.0	13.8	18.3
Reliance Vision Fund - Direct (D)	Rank 3	33.83	4.8	13.0	17.6	27.7	23.5	13.0	23.4
Franklin (I) Bluechip - Direct (G)	Rank 3	2,405.15	5.0	7.9	10.9	26.8	18.7	12.0	15.2
SBI Magnum Equity Fund (G)	Rank 4	1,550.88	2.9	6.1	7.3	22.7	14.8	9.5	14.5

Source: www.moneycontrol.com

Note: Returns have been calculated based on NAV's as on Jan 05, 2018 & Index values as on Jan 05, 2018

Statistics

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008
N	Valid	20	20	20	20	20	20	20	20
	Missing	0	0	0	0	0	0	0	0
Mean		4228.8560	4.8600	9.0600	12.7700	33.2750	20.9100	13.2700	18.1050
Std. Deviation		4809.88829	.75491	2.74522	3.35200	6.71329	2.80486	2.03291	2.36231
Variance		23135025.338	.570	7.536	11.236	45.068	7.867	4.133	5.581

Table IV reveals that:

- The average returns of all 20 mutual fund schemes under large cap category are 18.11 percent in 5 years, 13.27 percent in 3 years, and 20.91 percent in 2 years and 33.28 percent is in the 1st year as compared to Nifty is 12.0 percent in 5 years, 8.0 percent in 3 years, 16.5 percent in 2 years and 27.6 percent in the 1st year.
- The standard deviation of all 20 mutual fund schemes under large cap category is 2.04 in 5 years, 2.03 in 3 years, and 2.80 in 2 years and 6.71 is in the 1st year as compared to Nifty is 8.46.
- The variance of all 20 mutual fund schemes under large cap category is 5.58 in 5 years, 4.13 in 3 years, and 7.87 in 2 years and 45.07 is in the 1st year as compared to Nifty is 71.60.
- The large cap category has lowest standard deviation and variance in 3 years while it has highest standard deviation and variance in 1st year.
- Large cap has given greater return than Nifty return during the study period.

Analysis of Risk & Return under Small& Mid Cap

Table V showing Annualized Return of 20 Mutual Fund Schemes under Small & Mid Cap - Returns (in %) - as on Jan 05, 2018

Mutual Fund Scheme	Crisil Rank	AUM (Rs. cr.) Sep 17	1mth	3mth	6mth	1yr	2yr	3yr	5yr
							* Returns over 1 year are Annualized		
Reliance Small Cap - Direct (G)	Rank 2	574.17	9.7	23.3	28.8	63.6	34.1	27.2	36.0
Reliance Small Cap Fund (G)	Rank 2	3,722.59	9.6	22.9	28.0	61.7	32.5	25.9	34.8
ABSL Pure Value - Direct (G)	Rank 3	307.76	9.2	15.3	29.9	55.5	32.4	22.7	31.2
ABSL Pure Value Fund (G)	Rank 3	1,232.58	9.0	14.9	29.1	53.6	31.0	21.4	30.0
ABSL Small and Midcap Fund (G)	Rank 1	892.05	7.0	14.8	21.3	53.4	31.3	24.7	27.5
Sundaram SMILE Fund (G)	Rank 3	1,172.36	9.4	19.6	17.7	52.9	25.6	18.8	27.2
L&T Midcap Fund (G)	Rank 1	1,018.04	7.3	12.4	17.7	52.2	30.4	23.1	29.0
Can Robeco Emerg-Equities (G)	Rank 2	1,966.60	6.6	11.9	15.3	48.0	25.3	20.3	28.6
Mirae Emerging Bluechip Fund (G)	Rank 2	3,669.34	7.2	12.4	16.4	47.8	30.5	24.3	30.7
ICICI Pru MidCap Fund (G)	Rank 3	1,147.85	7.9	15.2	20.6	43.7	24.6	17.0	25.7

DSP-BR Micro Cap Fund - Direct (G)	Rank 3	877.44	10.8	20.8	18.4	43.3	28.8	25.7	33.5
Franklin (I) Smaller Co -Direct (G)	Rank 2	1,210.34	5.8	13.9	17.9	43.1	28.2	21.7	31.2
DSP-BR Micro Cap Fund - RP (G)	Rank 3	4,994.50	10.7	20.6	18.2	42.7	28.0	24.9	32.7
HDFC MidCap Opport.- Direct (G)	Rank 3	2,159.33	7.2	14.9	17.4	42.1	28.2	19.9	27.4
Franklin (I) Smaller Cos (G)	Rank 2	4,898.91	5.7	13.6	17.1	41.3	26.6	20.0	29.8
HDFC MidCap Opportunities (G)	Rank 3	15,512.00	7.1	14.6	16.8	40.7	27.0	18.8	26.3
UTI Mid Cap (G)	Rank 4	3,542.56	7.6	17.3	19.9	40.4	21.9	16.1	26.7
Sundaram Select Midcap -RP (G)	Rank 3	5,112.40	6.6	13.5	16.1	38.8	25.9	20.2	25.8
Franklin India Prima Fund (G)	Rank 3	5,226.56	6.8	12.5	15.1	38.4	24.0	17.2	25.2
SBI Magnum Midcap Fund (G)	Rank 4	3,327.40	6.8	14.8	13.5	32.8	19.7	17.4	25.5

Note : Returns have been calculated based on NAV's as on Jan 05, 2018 & Index values as on Jan 05, 2018

Statistics

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008
N	Valid	20	20	20	20	20	20	20	20
	Missing	0	0	0	0	0	0	0	0
Mean		3128.2390	7.9000	15.9600	19.7600	46.8000	27.8000	21.3650	29.2400
Std. Deviation		3367.63511	1.54681	3.55045	5.05698	8.11749	3.71852	3.32491	3.23019
Variance		11340966.255	2.393	12.606	25.573	65.894	13.827	11.055	10.434

Table V reveals that:

- The average returns of all 20 mutual fund schemes under small& mid cap category are 29.24 percent in 5 years, 21.36 percent in 3 years, and 27.80 percent in 2 years and 46.80 percent is in the 1st year as compared to Nifty is 12.0 percent in 5 years, 8.0 percent in 3 years, 16.5 percent in 2 years and 27.6 percent in the 1st year.
- The standard deviation of all 20 mutual fund schemes under small& mid cap category is 3.23 in 5 years, 3.32 in 3 years, and 3.72 in 2 years and 8.12 is in the 1st year as compared to Nifty is 8.46.
- The variance of all 20 mutual fund schemes under large cap category is 10.43 in 5 years, 11.06 in 3 years, and 13.83 in 2 years and 65.89 is in the 1st year as compared to Nifty is 71.60.
- The small& mid cap category has lowest standard deviation and variance in 5 years while it has highest standard deviation and variance in 1st year.
- The small& mid cap has given greater return than Nifty return during the study period and has standard deviation and variance less than standard deviation and variance of Nifty.

Analysis of Risk and return of 20 mutual funds schemes under Diversified Category Cap

Table VI Analysis of Risk and return of 20 mutual funds schemes under Diversified Equity Category Cap - Returns (in %) - as on Jan 05, 2018

Mutual Fund Scheme	Crisil Rank	AUM (Rs. cr.) Sep 17	1mth	3mth	6mth	1yr	2yr	3yr	5yr
							* Returns over 1 year are Annualized		
HDFC Small Cap Fund - Direct (G)	Rank 2	205.44	9.7	22.6	28.2	62.4	33.4	23.8	25.4
HDFC Small Cap Fund (G)	Rank 2	1,022.84	9.6	22.2	27.5	60.5	31.8	22.3	24.1
Principal Emerging Bluechip(G)	Rank 1	1,020.86	6.5	11.4	19.7	48.2	29.8	20.8	27.3
Reliance Growth Fund - RP (G)	Rank 3	6,175.07	7.6	15.2	18.8	43.8	23.7	17.0	19.2
Invesco India Contra (G)	Rank 3	587.99	6.3	14.8	20.2	42.5	25.0	16.9	22.0
HDFC Capital Builder Fund (G)	Rank 3	1,515.96	5.4	12.9	19.1	40.5	22.9	15.3	20.7
L&T India Value Fund (G)	Not Ranked	4,564.24	8.1	12.2	15.2	40.3	24.9	19.9	26.2
ABSL Advantage Fund -DIrect (G)	Rank 1	493.02	4.8	6.0	14.6	40.2	26.3	18.1	23.2
SBI Magnum Multiplier Fund (G)	Rank 3	1,768.32	6.9	14.6	16.4	39.6	20.0	16.2	20.7
Tata Equity P/E Fund (G)	Rank 1	1,447.59	6.4	7.6	14.6	38.8	28.1	17.7	22.8
ABSL Advantage Fund (G)	Rank 1	3,664.77	4.7	5.6	13.8	38.4	24.8	17.0	22.2
Mirae (I) Opportunities-RP (G)	Rank 2	3,441.07	5.5	9.2	13.7	37.2	23.7	15.8	20.7
DSP-BR Opportunities - RP (G)	Rank 3	2,831.73	5.2	11.5	16.7	37.7	25.6	17.9	20.2
Franklin High Growth Co -Direct (G)	Rank 4	1,255.25	3.9	15.0	16.3	36.4	22.6	14.8	24.3
Sundaram Rural India Fund (G)	Rank 1	1,424.95	5.7	9.9	12.2	36.2	31.1	20.9	20.8
Franklin High Growth Cos (G)	Rank 4	5,546.76	3.8	14.6	15.6	34.9	21.2	13.3	23.0

ABSL (I) Opportunities (G)	Not Ranked	106.32	8.7	15.0	23.6	33.7	16.8	15.1	24.0
ABSL Equity Fund -Direct (G)	Rank 2	1,169.92	6.0	7.4	12.2	33.4	26.6	17.6	22.3
ABSL Equity Fund (G)	Rank 2	5,529.93	5.9	7.0	11.5	31.9	25.3	16.4	21.2
Franklin India Prima Plus (G)	Rank 3	9,426.19	5.5	9.4	12.0	29.9	18.4	12.5	18.7

Note: Returns have been calculated based on NAV's as on Jan 05, 2018 & Index values as on Jan 05, 2018

Statistics

		VAR00001	VAR00002	VAR00003	VAR00004	VAR00005	VAR00006	VAR00007	VAR00008
N	Valid	20	20	20	20	20	20	20	20
	Missing	0	0	0	0	0	0	0	0
Mean		2659.9110	6.3100	12.2050	17.0950	40.3250	25.1000	17.4650	22.4500
Std. Deviation		2472.77061	1.69019	4.74680	4.83610	8.36590	4.32252	2.88978	2.28577
Variance		6114594.472	2.857	22.532	23.388	69.988	18.684	8.351	5.225

Table VI reveals that:

- The average returns of all 20 mutual fund schemes under diversified cap category are 22.45 percent in 5 years, 17.47 percent in 3 years, and 25.10 percent in 2 years and 40.33 percent is in the 1st year as compared to Nifty is 12.0 percent in 5 years, 8.0 percent in 3 years, 16.5 percent in 2 years and 27.6 percent in the 1st year.
- The standard deviation of all 20 mutual fund schemes under diversified cap category is 2.29 in 5 years, 2.89 in 3 years, and 4.32 in 2 years and 8.36 is in the 1st year as compared to Nifty is 8.46.
- The variance of all 20 mutual fund schemes under large cap category is 5.23 in 5 years, 8.35 in 3 years, and 18.68 in 2 years and 69.99 is in the 1st year as compared to Nifty is 71.60.
- Thus it has been found that the diversified cap category has lowest standard deviation and variance in 5 years while it has highest standard deviation and variance in 1st year. Diversified category cap has given greater return than Nifty return during the study period and has standard deviation and variance less than standard deviation and variance of Nifty during the study period.

V.FINDINGS

- It has been found that small& mid cap category mutual fund schemes have given highest average return while diversified cap category mutual fund schemes has given lowest average return. During same period, large cap category mutual fund schemes has given moderate average return or greater than diversified cap category average return and less than large cap category average return.
- The small& mid cap category ranked at 1st, large cap category rand at 2nd and diversified category ranked at 3rd in terms of *risk& return* during the study period. The small& mid cap category has highest risk and has highest return while the diversified category has lowest risk and has lowest return. The large cap category has moderate risk and has moderate return.
- All category caps have performed better than market or nifty.
- The large cap category has lowest standard deviation and variance in 3 years while it has highest standard deviation and variance in 1st year.
- Large cap has given greater return than Nifty return during the study period.

- The small& mid cap category has lowest standard deviation and variance in 5 years while it has highest standard deviation and variance in 1st year.
- The small& mid cap has given greater return than Nifty return during the study period and has less standard deviation and variance less than standard deviation and variance of Nifty.
- It has been found that the diversified cap category has lowest standard deviation and variance in 5 years while it has highest standard deviation and variance in 1st year. Diversified category cap has given greater return than Nifty return during the study period and has standard deviation and variance less than standard deviation and variance of Nifty during the study period.
- The large cap category investors having lowest risk in the long run period of 3 years while small& mid category and diversified cap mutual fund schemes in the long run period of 5 years.

VI. CONCLUSIONS &SUGGESTIONS

It has been concluded from the above discussions that the small& mid cap category ranked at 1st, large cap category rand at 2nd and diversified category ranked at 3rd in terms of risk& return during the study period or in long-term period. The small& mid cap category has highest risk and has highest return while the diversified category mutual fund schemes have lowest risk and has lowest return. The large cap category has moderate risk and has moderate return.

Equity mutual funds investors have to face risk and uncertainty regarding their investment and if an investor who want to earn to highest return then, he can choose small& mid cap mutual fund category schemes in long-term period while if he wants to take lowest risk then he can invest in Diversified Equity Mutual Funds and can earn. On the other hand, the investors who want to earn more than diversified category investors, then, they can invest in the large cap category mutual fund schemes which have moderate risk and have moderate return.

The Assets under Management (AUM) of the Indian mutual fund (MF) industry witnessed an excellent growth in financial year 2017 and the growth can be attributed to strong retail participation and overall market gains. Risk and return goes hand to hand. The equity investments are directly linked with risk and uncertainty in present complex global business environment. That is why retail investors to improve their level of awareness and financial literacy of retail investors and the investor should invest in different category equity mutual funds schemes rather than direct investment in equity market. However, the investment made by investors in different investment avenues depends on the investment objectives and risk taking capacity.

REFERENCES

[i] Partap Singh (2018). A Comparative Evaluation of Tax Saving ELSS and ULIP Schemes Journal for Advance Research in Applied Science, IAETSD-JARAS. SS Publications. ISSN No. 2394-8442. VOLUME 5 – ISSUE 1, Page No: 300-307

[ii] Partap(2017).An Evaluation of Socio-Legal and Economic Consequences of Benami Act, 2016. Journal for Advance Reseach in Applied Science, IAETSD-JARAS. SS Publications. ISSN No. 2394-8442. OLUME 4 – ISSUE 7.DECEMBER 2017. Page No: 300-307

[iii]Partap Singh & Angaria Bhaskar (2017). Foreign Exchange Reserves (Fer) Accumulation and MacroEconomic Stability: The Indian Experience. Journal for Advance Reseach in Applied Science, IAETSD-JARAS. SS Publications. VOLUME 4, ISSUE 7, 3 00-307

[iv] Bhagyashree N and Kishori B. (2016), 'A Study on Performance Evaluation of MutualFunds Schemes in India", International Journal for Innovative Research in Science & Technology, Vol. 2, No.11, pp. 812 to 816.

[v] Goyal (2015), "Performance Evaluation of Top 10 Mutual Funds in India", Indian Journal of Commerce & Management Studies, Vol. 6, No.1, pp. 51-55.

[vi] Ruahal S. (2013) "Performance Appraisal of Mutual Funds in India", Finance India, Vol. XIV, No.4, pp.1256-1261

[vii] Dhanda SK (2012) Performance evaluation of selected open ended mutual funds in India. International Journal of Marketing, Financial Services & Management Research 1: 29-38

[viii] Gohar R, Ahmed S, Niazi U (2011) Performance comparison of mutual funds in Pakistan. African Journal of Business Management 5: 5583-5593

[ix] Prince V, Bacon L (2010) Analyzing mutual fund performance against establishes performance benchmarks: A test of market efficiency. Research in Business and Economics Journal 1: 1-15.

[x] Noulas G and Athanasius (2005) Performance of mutual funds. Managerial Finance 31:101-112.

[xi] Rao NS, Ravi dram M (2002) Performance of Indian mutual funds. Proceedings of 15th Australasian Finance and Banking Conference held in Sydney (Australia) on 16-18 December 2002

Websites:

i. *www.moneycontrol.com*
ii. *https://en.wikipedia.org/wiki/Mutual_fund*
iii. *https://www.amfiindia.com/research-information/mf-history*