



## A Study of Performance of selected Indian Equity Mutual Fund

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India has one of the highest savings rate in the world which is near to 31%. It is necessary to enhance savings with the improvement in its holding pattern for the development of our nation. Here, mutual funds come into picture as an efficient investment option in mobilization and allocation of resources because investment in share market requires expertise and technical knowledge and it is risky as well. Mutual Funds is a trust that pull the savings of a number of investors who share a common financial goal.

The present paper explores the performance of selected ten open ended equity mutual funds for the period from January 2008 to December 2021. The closing value of every month of all the selected 10 mutual fund schemes have been used to calculate the risk and return of the selected Mutual Funds. BSE Sensex and Nifty both are used as the market portfolio. Various performance indicators like Sharpe ratio, Treynor's measure and Jensen's Alpha is being used to make a comparative analysis.

Keywords: Mutual Funds, risk, return, sensex, Net Assets Value, Sharpe ratio, Jenson Alpha, Beta

### 1. Introduction

Mutual funds can be defined as an unregulated and unincorporated trust, where the capital subscribed by the members is invested in stocks, bonds and other securities such that any member shares pro rata in all profits and losses of these investments. Mutual Funds India Pvt Ltd was incorporated on December 30th, 2000 for providing world class financial advisory services to investors to help them align their interest rates with national interest rates. As on 31st March 2023, assets under management (AUM) of Mutual Funds India was Rs 43,20,468 crore.

Unit Trust of India marked the starting of Indian Mutual Fund industry way back in 1963. Over these years, this industry has evolved from being a UTI-dominated one to one where there is balanced participation of the public and the private sectors. The Indian mutual fund has a lot to grow if we compare it with the global scenario. With the encouragement of AMFI and Government of India, the mutual fund industry has huge scope to grow.

### Equity Mutual Funds

An investor has various objectives before deciding to invest in Mutual Funds. Equity/Growth schemes under are those schemes which aim at achieving capital appreciation by investing in stocks. These schemes focus on those companies which are experiencing significant earnings or revenue growth. These companies generally retain back most of their profits in research and development rather than paying dividends. The expectation is that these rapidly growing companies will continue increasing in value which will allow the investors to enjoy advantages of huge capital gains. Equity/Growth funds offer very high growth opportunities, especially when the financial market is in bullish phase. These are preferred by investors who do not expect immediate liquidity and are ready to gain over a span of time. These schemes invest majority of funds in equities (shares). They promise attractive return on investments and are exposed to high risks depending upon the equity market situations, which are based on external factors like economic, social and political aspects of the economy. Equity funds aim to generate capital gains rather than focusing on generating income. According to Goel, prior to comprehending about what equity Mutual Fund is, it is very important to understand that who all should invest in such schemes and what are the advantages linked to it.

1. The risk level of these funds is way higher in comparison to any ordinary Mutual Fund, but the premium or the dividend earned is also higher.
2. The fund's performance is equally proportional to stock market's performance. This means that whenever stock market losses the value and price of the Fund falls rapidly, likewise when the market hits peak the price of the fund hikes up as well, thus, establishing a positive relationship between the two.

3. These funds are meant for those investors with long term goals, and those who plan for future earnings.
2. Literature review
    - ✓ Elango (2004) in his study has worked on 30 open ended mutual funds schemes comprising 15 public sector and 15 private/foreign schemes from (1999-2002) to mark the sector with highest increase in NAV and interpret whether the past performances had any impact on the future NAV by using statistical tools like mean, range, regression analysis and t-test. The study portrays that the private/foreign funds has shown consistent performance in comparison to public sector schemes. The result of regression analysis indicated a highly significant difference between the NAV of public and private/foreign funds. It has been suggested that aggressive and risk seeking investors must opt for private sector schemes as they yield higher returns based on the NAV performance.
    - ✓ Chavali and Jain (2009) in their study has focused on 16 equity linked saving schemes by using Sharpe ratio, Standard deviation, Beta, Alpha, R-Squared Cluster analysis and Multi-Variate analysis. A survey has been conducted taking 75 salaried class respondents in Delhi. The equity linked saving schemes taken into consideration has given a result showing different risk return parameters. Comparing the selected funds, the researcher recommended investment in SBI Magnum Tax Gain Scheme. The study shows that 85% of the respondents were aware of mutual funds whereas, a large number of investors investing in equity linked saving schemes were not aware about benefits attached with the schemes.
    - ✓ Rashmi Bhargava (2015) in her paper 'Market Sentiments and Performance Evaluation of Equity Mutual Fund Schemes in India' analysed the growth of the mutual fund industry in India in terms of number of schemes, resource mobilization and assets under management of selected schemes. She came to the conclusion that the focus of the private sectors on creating new distribution channels and hi-tech servicing has contributed hugely towards the robust growth of the Mutual Fund sector in India.
    - ✓ Subrata Roy (2013) in his paper 'Performance Appraisal of Mutual Funds in India an Empirical Study' examined the risk-return performance of selected open-ended mutual fund schemes and evaluated their performance based on risk-adjusted measures. He concluded that performances of all types of selected open-ended mutual fund schemes were positive and satisfactory..
  3. Objective of the Study
    - To study the growth and development of mutual fund industry in India.
    - To explore the risk return analysis of selected mutual fund schemes.
    - To analyse the performance of the selected equity Mutual Fund Schemes with respect to Sensex and Nifty.
  4. Research Methodology
    - i. Research Sample
      - DSP BlackRock Small Cap Fund (Erstwhile DSPBR Micro Cap)
      - HDFC Mid-Cap Opportunities Fund
      - ICICI Prudential Value Discovery Fund
      - Franklin India Smaller Companies Fund
      - Sundaram Mid Cap Fund - (Erstwhile Sundaram Select Midcap Reg)
    - ii. Period of Study
 

The time period selected is 2008-2021 that covers the global meltdown, recovery, Covid 19 and other important global and domestic economic and political events.
    - iii. Collection of Data
 

The study is based on secondary data. To make the study more analytical and scientific; and to arrive at definite conclusions, the secondary data is collected from SEBI Database, RBI, BSE Publications, Reports of SEBI, fact books, websites of different AMCs. Required data relating to Net Asset Value (NAV) of various mutual fund schemes has been collected on daily basis for the study period from the Financial Express, Economic Times, Business Standard and various websites such as [www.amfiindia.com](http://www.amfiindia.com), [www.mutualfundindia.com](http://www.mutualfundindia.com), [www.valuresearch.com](http://www.valuresearch.com), [www.hdfcsec.com](http://www.hdfcsec.com). BSE SENSEX and Nifty has been taken as the benchmark index and historical data is used for computation of market return. The work of the academicians on this subject has also been consulted for the purpose of analysis.
    - iv. Research Methods
      - Descriptive Statistics (Mean, Standard Deviation)
      - Sharpe ratio indicating risk-return performance of the portfolio.
      - Beta measures the volatility or systematic risk in comparison with the market.
      - Jensen's alpha calculates the risk adjusted performance of a mutual fund scheme in relation to the expected market return. It captures the expertise of the fund manager.

- Correlation indicates the degree of relationship between the mutual fund scheme and the market indices (BSE Sensex and Nifty). SPSS software is used for the purpose.

The following table shows the criterion deciding whether a fund has outperformed or underperformed or neutral.

Situations	Positive return	Negetive Return
Market index < Mutual Fund Index	O	U
Market index > Mutual Fund Index	U	O
Market index = Mutual Fund Index	N	N

For determining the degree of correlation we have followed Rashmi Bhargava (2015), which differentiates them as High (H), Medium (M) and Low (L);

Range of Correlation	Degree of Correlation
Below 0.4	Low
0.5-0.75	Medium
Above 0.75	High

#### 5. Limitation of the Study

- The study is based on secondary data only, the investor's perception about mutual fund is not being considered.
- The sample size is limited to five top performing mutual fund schemes.

#### 6. Data Analysis

6.1 To understand the growth of mutual fund industry, we have looked into the growth aspect from different angles from the SEBI report:

- Category wise Mutual Funds Resource Mobilisation
- Category wise Mutual Funds in terms of number of schemes
- Category wise Mutual Funds Net Inflow: Private Vs Public
- Growth in Assets under Management of the mutual fund industry.

##### ➤ Category wise Mutual Funds Resource Mobilisation

The mutual funds here are categorised into Income funds, Arbitrage Funds, Infrastructure Debt Funds, Equity/ Growth Funds, Balanced Funds, Liquid/ Money Market Funds, GILT Funds, ELSS Funds, Gold ETFs, Other ETFs and Funds of Funds. Total resources mobilised by mutual funds increased from 5,05,152 crore in March 2008 to 23,79,584 crore in March 2019 registering an overall growth rate of 371 per cent. Other ETFs schemes had the highest growth rate (4986%) followed by balanced schemes (1009%), Gold ETFs (821%), ELSS (499%) Liq/MM fund (388%), Growth/ Equity schemes (375%), income schemes (226%), Infrastructure Debt funds (201%) and GILT schemes (186%), whereas Funds of Funds showed a negative growth rate (30%) during the period. It is worth mentioning here that income schemes had the largest share till in March 2018 moved to second position in March 2019 with 30% share whereas Equity/ Growth scheme moves to the first position from second position with 31% share. This is to note that due to change in SEBI report format has changed from 2020 onwards. The classifications of the funds have been clubbed under other funds category.

Scheme-wise Resource Mobilisation and  
Assets under Management by Mutual Funds (Rs crore)

YEAR	INCOME	INFRASTRUCTURE DEBT FUND	EQUITY/ GROWTH	ARBITRAGE FUNDS	BALANCED	LIQUID/ MONEY MARKET	GILT	ELSS	GOLD ETFs	OTHER ETFs	FUND OF FUNDS INVESTING IN OVERSEAS	TOTAL
2008	220762	0	156722	0	16283	89402	2833	16020	483	2647	0	505152
2009	197,343	0	95,817	0	10,629	90,594	6,413	12,427	736	660	2,681	417300
2010	3,11,715	0	1,74,054	0	17,246	78,094	3,395	24,066	1,590	957	2,862	613979
2011	2,91,975	0	1,69,754	0	18,445	73,666	3,409	25,569	4,400	2,516	2,516	592250
2012	2,90,844	0	1,58,432	0	16,261	80,354	3,659	23,644	9,886	1,607	2,530	587217
2013	3,95,985	0	1,49,777	0	16,307	93,392	8,074	22,731	11,648	1,476	2,053	701443
2014	4,60,671	879	1,65,560	0	16,793	1,33,280	6,115	25,547	8,676	4,528	3,191	825240
2015	5,15,773	1,178	3,05,669	0	26,368	1,62,562	14,614	39,470	6,655	8,060	2,408	1082757
2016	5,65,459	1,730	3,44,707	0	39,146	1,99,404	16,306	41,696	6,346	16,063	1,967	1232824
2017	7,43,783	1,908	4,82,138	0	84,763	3,14,086	14,875	61,403	5,480	44,436	1,747	1754619
2018	7,85,553	2,468	6,69,207	0	1,72,151	3,35,525	11,404	80,583	4,806	72,888	1,451	2136036
2019	7,18,919	2,649	7,44,020	52,062	1,80,648	4,36,224	8,099	96,019	4,447	1,34,626	1,871	2379584

Source: SEBI Annual Report (old format)

Scheme-wise Resource Mobilisation and Assets under Management by Mutual Funds (Rs crore)							
Year	Income /Debt Oriented Schemes	Growth/ Equity Oriented Schemes	Hybrid Schemes	Solution Oriented Schemes	Other Schemes	Fund of Funds Scheme (Domestic)	Total
2020-21	1452684	1001121	342957	24377	321626	27325	3170090
2021-22	1351571	1373729	479918	29537	521928	48362	3805045

Source: SEBI Annual Report 2021-22 (new format)

➤ **Category wise Mutual Funds in terms of number of schemes**

- The overall growth reported from 2008 to 2019 to be 113.50% i.e, from 956 schemes to 2042 schemes. Most importantly out of this the income fund schemes grew by 147.43% and growth funds by 70.37%. The share of income funds out of the total funds increased significantly from 2008 to 2019 i.e, from 52% to 61% whereas the share of all other funds out of the total proportion decreased with time.
- It is to be noted that the growth of balanced fund gradually became negative.
- There is a sluggish growth in liquid / money market funds i.e, 12.07%.
- The ELSS have grown up 64.28% over the years.
- The Gold ETFs maintained more or less constant status over the time period.
- The number of schemes have decreased by 23.36% in the period 2019 to 2021.

Source: SEBI Annual Report (old format)

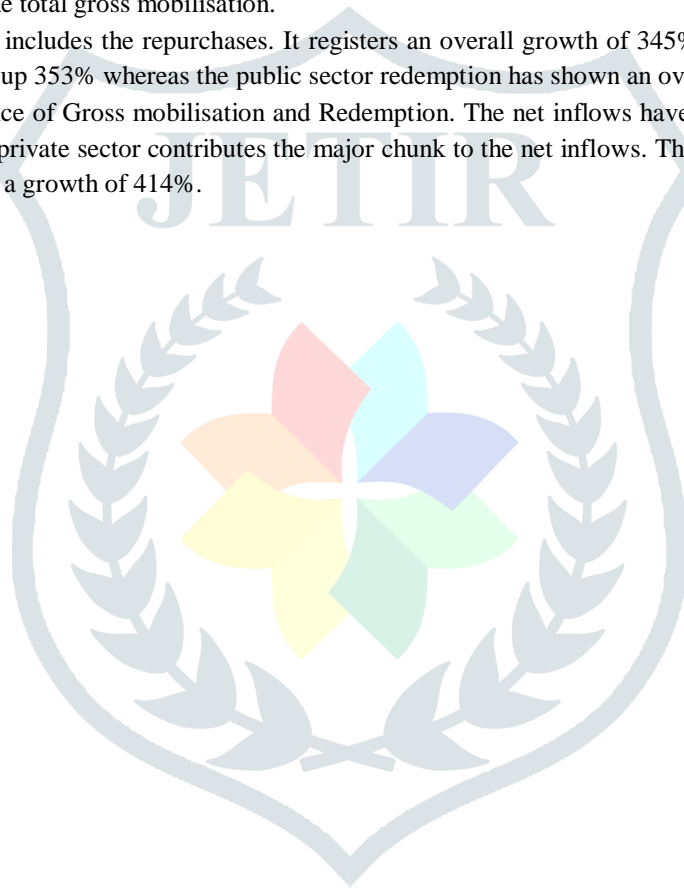
YEAR	CATEGORY												
	INCOME	INFRASTRUCTURE DEBT FUND	Income/Debt Oriented Schemes	EQUITY/ GROWTH	ARBITRAGE FUNDS	BALANCED	LIQUID/ MONEY MARKET	GILT	ELSS	GOLD ETFs	OTHER ETFs	FUND OF FUNDS INVESTING IN OVERSEAS	TOTAL
2007	367	0		227	0	38	55	28	40	1	0	0	756
2008	506	0		270	0	37	58	30	42	5	8	0	956
2009	509	0		293	0	35	56	34	47	5	12	10	1001
2010	367	0		307	0	33	56	35	48	7	14	15	882
2011	591	0		328	0	32	51	37	48	10	18	16	1131
2012	775	0		303	0	30	55	42	49	14	21	20	1309
2013	760	0		298	0	32	55	42	49	14	23	21	1294
2014	1,077	4		311	0	30	53	44	52	14	26	27	1638
2015	1,245	4		379	0	25	52	45	55	14	34	31	1884
2016	1,730	7		413	0	28	53	41	60	13	45	30	2420
2017	1,575	4		420	0	30	52	41	64	12	51	29	2278
2018	1,258	9		442	0	31	52	38	72	12	56	28	1998
2019	1,252	10		460	25	27	65	27	69	12	66	29	2042

Year	No. of Funds						Total
	Income /Debt Oriented Schemes	Growth/ Equity Oriented Schemes	Hybrid Schemes	Solution Oriented Schemes	Other Schemes	Fund of Funds Scheme (Domestic)	
2020-21	959	420	139	35	182	54	1789
2021-22	651	401	135	35	273	70	1565

Source: SEBI Annual Report 2021-22 (new format)

### **Category wise Mutual Funds Net Inflow: Private Vs Public**

- From the above table we can see the net resource mobilisation from 2008 to 2019. The gross mobilisation shows an overall growth rate of 350% where the private has grown up by 358% and public sector has grown up by 567%. The private sector has a lion's share in the contribution of the total gross mobilisation.
- Redemption of the resources includes the repurchases. It registers an overall growth of 345% during the study period. The private sector redemption has grown up 353% whereas the public sector redemption has shown an overall growth of 569%.
- The net inflow is the difference of Gross mobilisation and Redemption. The net inflows have registered an overall growth of 488% during the study period. The private sector contributes the major chunk to the net inflows. The private sector has grown up by 281% whereas the public sector has a growth of 414%.



Period	Gross Mobilisation				Redemption*				Net Inflow			
	Private Sector	Public Sector	UTI	Total	Private Sector	Public Sector	UTI	Total	Private Sector	Public Sector	UTI	Total
1	2	3	4	5	6	7	8	9	10	11	12	13
2007-08	3780753	346126	337498	4464371	3647449	335448	327678	4310575	133304	10677	9820	153802
2008-09	4292751	710472	423131	5426353	4326768	701093	426790	5454650	-34018	9380	-3658	-28296
2009-10	7698483	881851	1438688	10019023	7643555	866198	1426189	9935942	54928	15653	12499	83080
2010-11	6922,924	7,83,858	11,52,733	88,59,515	69,42,140	8,00,494	11,66,288	89,08,921	-19,215	-16,636	-13,555	-49,406
2011-12	5683,744	5,22,453	6,13,482	68,19,679	56,99,189	5,25,637	6,16,877	68,41,702	-15,446	-3,184	-3,394	-22,024
2012-13	5987,889	6,33,350	6,46,646	72,67,885	59,19,979	6,28,720	6,42,647	71,91,346	67,911	4,629	3,999	76,539
2013-14	8049,397	8,02,352	9,16,351	97,68,101	80,00,559	8,01,951	9,11,808	97,14,318	48,838	401	4,543	53,783
2014-15	9143,962	1942,297	Na	1,10,86,260	90,40,262	1942,710	Na	1,09,82,972	1,03,700	-412	Na	1,03,288
2015-16	1,11,26,277	26,39,279	Na	1,37,65,555	1,10,34,883	25,96,492	Na	1,36,31,375	91,394	42,787	Na	1,34,181
2016-17	1,42,47,937	33,67,612	Na	1,76,15,549	1,39,68,549	33,03,951	Na	1,72,72,500	2,79,388	63,661	Na	3,43,049
2017-18	1,73,82,189	36,16,463	Na	2,09,98,652	1,71,53,718	35,73,137	Na	2,07,26,855	2,28,471	43,326	Na	2,71,797
2018-19	1,96,52,989	47,41,374	Na	2,43,94,362	1,95,91,483	46,93,178	Na	2,42,84,661	61,505	48,196	Na	1,09,701
2019-20	1,49,89,990	38,23,467	Na	1,88,13,458	1,49,65,931	37,60,226	Na	1,87,26,157	24,059	63,241	Na	87,301
2020-21	70,15,519	16,23,648	Na	86,39,167	68,73,141	15,51,283	Na	84,24,424	1,42,378	72,365	Na	2,14,743

Source: SEBI Annual Report 2021-22

➤ **Growth in Assets under Management of the mutual fund industry.**

The assets under management has shown a significant growth of 522% from 2008 to 2021. It is to be noted that due to pandemic the AUM dropped in March,2020. Otherwise in most of years the growth is positive. It is very important to note that rate of change is very high in 2009-10, 2016-17 and 2020-21.

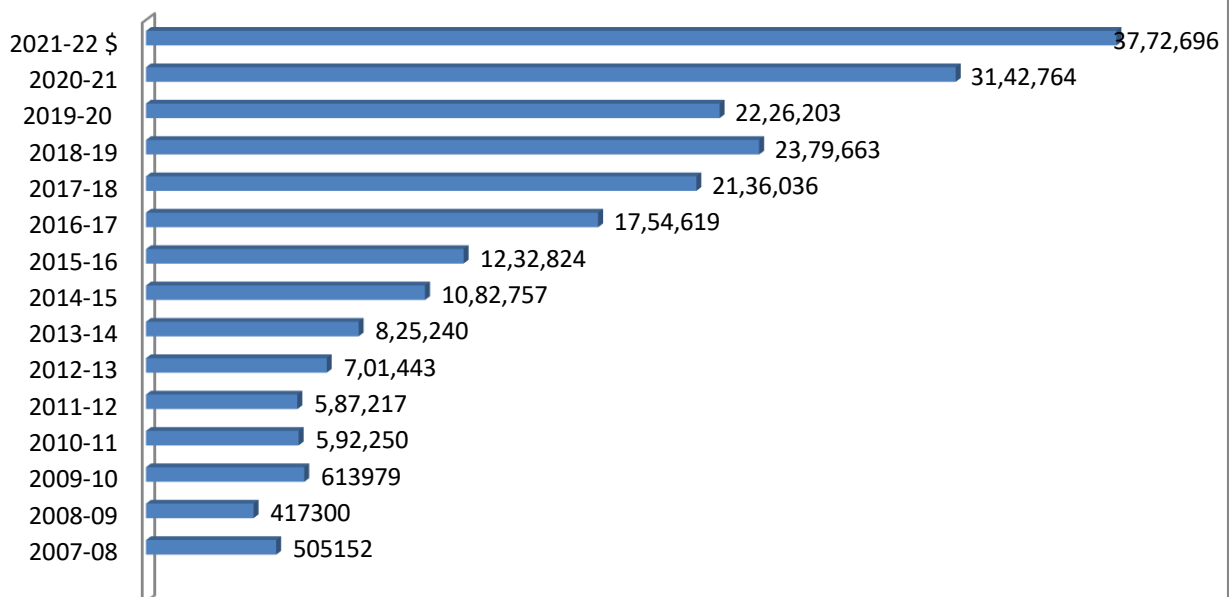
Period	Assets under Management at the End of Period
2007-08	505152
2008-09	417300
2009-10	613979
2010-11	5,92,250
2011-12	5,87,217
2012-13	7,01,443
2013-14	8,25,240
2014-15	10,82,757
2015-16	12,32,824
2016-17	17,54,619
2017-18	21,36,036
2018-19	23,79,663
2019-20	22,26,203
2020-21	31,42,764

Source: www.rbi.org.in

This tremendous growth of the industry has been possible primarily because of two factors- (i) the measures taken by SEBI to re-energise the industry back in September 2012 and (ii) the support from mutual fund distributors to expand the retail base. The distributors also act as a bridge between the funds and the investors, especially in the remote areas. They not only help the investors to choose an appropriate scheme, but also make them aware about the volatility of the market, thus making investing in mutual funds a secure option. They have also had a major role in popularising Systematic Investment Plans (SIP) over the years. In April 2016, the number of SIP accounts crossed 1 crore mark and as on 28th February 2022 the total number of SIP Accounts are 5.17 crore.

## Assets under Management at the End of Period

■ Assets under Management at the End of Period





## 6.2. Analysis of the selected Equity Mutual Funds

1. **DSP BlackRock Small Cap Fund (Erstwhile DSPBR Micro Cap)**

Fund											
DSP Small Cap Fund - Regular Plan											
Year	Avg Return	Sensex Return	Nifty Returns	Trend (Sensex)	Trend (Nifty)	SD of Fund Return	SD of Sensex	SD of Nifty	Beta	Sharpe	Jensen
2008	-0.0729	-0.0586	-0.052856896	U	U	0.11799908	0.0635	0.10962	1.249303121	-0.383376255	-0.0066
2009	0.07387462	0.0541	0.050386135	O	O	0.13957196	0.07813	0.09433	1.519514475	0.282826296	0.0095
2010	0.03207219	0.0131	0.01446593	O	O	0.054460855	0.02948	0.04887	1.142801128	0.535654282	0.0175
2011	-0.024058731	-0.0179	-0.021538858	U	U	0.064944176	0.033768	0.06332	1.425155221	-0.475157798	0.0043
2012	0.029614909	0.0164	0.021386208	O	O	0.045150389	0.026443	0.04946	0.888398916	0.54739084	0.0145
2013	0.004886365	0.0069	0.005818767	U	U	0.063541746	0.026141	0.04432	1.742177785	-0.055296487	-0.0009
2014	0.061149381	0.025	0.023280469	O	O	0.045488261	0.022102	0.03616	1.33801224	1.553134342	0.0245
2015	0.015902722	-0.0058	-0.003078288	O	O	0.026631778	0.022602	0.03573	0.352710848	0.630927528	0.0185
2016	0.012424551	0.0021	0.003129966	O	O	0.07178778	0.031014	0.04787	1.766795301	0.368092603	-0.0020
2017	0.03056527	0.0196	0.021295041	O	O	0.031628118	0.015087	0.02711	0.801219143	0.93351335	0.0147
2018	-0.022610874	0.0067	0.004198161	U	U	0.057605518	0.032778	0.04764	0.52188435	-0.408135799	-0.0265
2019	0.001893384	0.0109	0.012079475	U	U	0.052970495	0.023857	0.0346	1.258735697	0.209425715	-0.0142
2020	0.031439673	0.0177	0.016727031	O	O	0.117936381	0.102735	0.10318	1.051064893	0.193660963	0.0133
2021	0.040029982	0.017	0.018306671	O	O	0.039507974	0.036498	0.03538	0.248781747	0.815784215	0.0299

Source: Computed through excel on the basis of data collected from www.valuresearch.com

The above table highlights that the security generated positive returns for 11 years. The highest return (0.0738) was in 2009 and the lowest return (-0.0729) was in 2008. The highest variability (0.1396) was recorded in the year 2009 and the lowest variability (0.0266) was recorded in the year 2015. The Sensex Index return and Nifty Index return remained positive for 11 years. The fund remained risky in comparison with the Sensex for 14 years and 12 years for the Nifty. Out of the total correlations, ten correlations were high for Sensex and Nifty. The scheme outperformed the market over the study period for 9 years except 2008, 2011, 2013, 2018 and 2019 for Sensex, and the scheme outperformed the market over the study period for 9 years except 2008, 2011, 2013, 2018 and 2019 for Nifty. In 2008, 2009, 2010, 2011, 2013, 2014, 2016, 2019 and 2020 Beta ratio was higher than 1 and the other year Beta ratio was lower than 1, whereas, the Sharpe ratio was below 1 for 13 years, where, in 2014 the Sharpe ratio was above 1 and in the Jensen ratio, shows positive results indicating the fund outperformed for 7 years.

2. **HDFC Mid-Cap Opportunities Fund**

Fund											
HDFC Mid-Cap Opportunity Fund											
Year	Avg Return	Sensex Return	Nifty Returns	Trend(Sensex)	Trend(Nifty)	SD of Fund Return	SD of Sensex	SD of Nifty	Beta	Sharpe	Jensen
2008	-0.05342394	-0.0586	-0.052856896	O	U	0.102418189	0.0635	0.10962	1.057708	-0.2512	0.00696
2009	0.060699256	0.0541	0.050386135	O	O	0.094323187	0.07813	0.09433	0.994308	0.27882	0.00671
2010	0.023911161	0.0131	0.01446593	O	O	0.03162745	0.02948	0.04887	0.686758	0.66433	0.01401
2011	-0.01525283	-0.0179	-0.021538858	O	O	0.055868239	0.033768	0.06332	1.267194	-0.3947	0.00925
2012	0.029265614	0.0164	0.021386208	O	O	0.048887566	0.026443	0.04946	1.172399	0.4984	0.01088
2013	0.00886515	0.0069	0.005818767	O	O	0.051401998	0.026141	0.04432	1.437651	0.00905	0.00262
2014	0.049261811	0.025	0.023280469	O	O	0.039977607	0.022102	0.03616	1.165522	1.46987	0.01855
2015	0.005024085	-0.0058	-0.003078288	O	O	0.02572091	0.022602	0.03573	0.409384	0.23032	0.00793
2016	0.010717975	0.0021	0.003129966	O	O	0.061411325	0.031014	0.04787	1.560327	0.4025	-0.0004
2017	0.029751524	0.0196	0.021295041	O	O	0.02570793	0.015087	0.02711	0.620486	1.11684	0.0172
2018	-0.00848537	0.0067	0.004198161	U	U	0.054071865	0.032778	0.04764	0.522785	-0.1736	-0.0124
2019	0.001139285	0.0109	0.012079475	U	O	0.046212545	0.023857	0.0346	1.052172	0.22373	-0.0108
2020	0.022807443	0.0177	0.016727031	O	O	0.110238114	0.102735	0.10318	1.016947	0.12888	0.00495
2021	0.028932486	0.017	0.018306671	O	O	0.035619786	0.036498	0.03538	0.658957	0.59328	0.01507

Source: Computed through excel on the basis of data collected from www.valuresearch.com

The above table highlights that the security generated positive returns for 11 years. The highest return (0.0607) was in 2009 and the lowest return (-0.0534) was in 2008. The highest variability (0.1102) was recorded in the year 2020 and the lowest variability (0.02571) was recorded in the year 2017. The Sensex Index return and Nifty Index return remained positive for 11 years. The fund remained risky in comparison with the Sensex for 13 years and 7 years for the Nifty. Out of the total correlations, ten correlations were high, both for Sensex and Nifty. The scheme outperformed the market over the study period for 12 years except 2018 and 2019 for Sensex, and the scheme outperformed the market over the study period for 12 years except 2008 and 2018 for Nifty. In 2008, 2011, 2012, 2013, 2014, 2016, 2019 and 2020 Beta ratio was higher than 1 and the other year Beta ratio was lower than 1, whereas, the Sharpe ratio was below 1 for 12 years, where, in 2014 and 2017 the Sharpe ratio was above 1 and in the Jensen ratio, it generates positive results for 11 years, indicating its better performance.

### 3. ICICI Prudential Value Discovery Fund

ICICI Prudential Value Discovery Fund											
Year	Avg Return	Sensex Return	Nifty Returns	Trend(Sensex)	Trend(Nifty)	SD of Fund Return	SD of Sensex	SD of Nifty	Beta	Sharpe	Jensen
2008	-0.05636758	-0.0586	-0.052856896	0	U	0.122054058	0.0635	0.10962	1.104597	-0.2349	0.00546
2009	0.07828362	0.0541	0.050386135	0	0	0.108461185	0.07813	0.09433	1.192266	0.4046	0.0204
2010	0.020975039	0.0131	0.01446593	0	0	0.029286267	0.02948	0.04887	0.695977	0.61718	0.01098
2011	-0.02105039	-0.0179	-0.021538858	U	0	0.052256948	0.033768	0.06332	1.270201	-0.533	0.00352
2012	0.032932616	0.0164	0.021386208	0	0	0.045077481	0.026443	0.04946	1.108526	0.62188	0.01528
2013	0.007705848	0.0069	0.005818767	0	0	0.04762143	0.026141	0.04432	1.109579	-0.0146	0.00097
2014	0.048407259	0.025	0.023280469	0	0	0.054488078	0.022102	0.03616	1.512349	1.06275	0.00573
2015	0.004793695	-0.0058	-0.003078288	0	0	0.028621659	0.022602	0.03573	0.705952	0.19893	0.00915
2016	0.005038194	0.0021	0.003129966	0	0	0.052991584	0.031014	0.04787	1.27592	0.35927	-0.0015
2017	0.018196827	0.0196	0.021295041	U	U	0.022778802	0.015087	0.02711	0.790293	0.75319	0.00249
2018	-0.00299047	0.0067	0.004198161	U	U	0.034400658	0.032778	0.04764	0.701907	-0.1131	-0.008
2019	0.000793679	0.0109	0.012079475	U	U	0.028182253	0.023857	0.0346	0.870569	0.35461	-0.0075
2020	0.027306056	0.0177	0.016727031	0	0	0.092020415	0.102735	0.10318	0.826285	0.20328	0.01119
2021	0.029083974	0.017	0.018306671	0	0	0.03103906	0.036498	0.03538	0.694409	0.68572	0.0149

Source: Computed through excel on the basis of data collected from www.valuresearch.com

The above table highlights that the security generated positive returns for 11 years. The highest return (0.0783) was in 2009 and the lowest return (-0.0564) was in 2008. The highest variability (0.1221) was recorded in the year 2008 and the lowest variability (0.0228) was recorded in the year 2017. The Sensex Index return and Nifty Index return remained positive for 11 years. The fund remained risky in comparison with the Sensex for 11 years and 5 years for the Nifty. Out of the total correlations, eleven correlations were high for Sensex, and twelve correlations were high for Nifty. The scheme outperformed the market over the study period for 10 years except 2011, 2017, 2018 and 2019 for Sensex, and the scheme outperformed the market over the study period for 10 years except 2008, 2017, 2018 and 2019 for Nifty. In 2008, 2009, 2011, 2012, 2013, 2014 and 2016 the Beta ratio was higher than 1 and the other years Beta ratio was lower than 1, whereas, the Sharpe ratio was below 1 for 11 years, where, in 2014 the Sharpe ratio was above 1 and in the Jensen ratio, it generates positive results for 11 years, indicating its outperformance.

#### 4. Franklin India Smaller Companies Fund

Fund	Franklin India Smaller Companies Fund										
	Year	Avg Return	Sensex Return	Nifty Returns	Trend(Sensex)	Trend(Nifty)	SD of Fund Return	SD of Sensex	SD of Nifty	Beta	Sharpe
2008	-0.07335508	-0.0586	-0.052856896	U	U	0.114185168	0.0635	0.10962	1.155	-0.3998	-0.009951461
2009	0.067464671	0.0541	0.050386135	O	O	0.123876211	0.07813	0.09433	1.292	0.26692	0.007611462
2010	0.01537079	0.0131	0.01446593	O	O	0.048321587	0.02948	0.04887	1.222	0.25808	0.00310602
2011	-0.02335279	-0.0179	-0.021538858	U	U	0.052978144	0.033768	0.06332	1.108	-0.5692	-0.002792995
2012	0.036234476	0.0164	0.021386208	O	O	0.044428951	0.026443	0.04946	1.232	0.70527	0.017169575
2013	0.011652416	0.0069	0.005818767	O	O	0.053290831	0.026141	0.04432	1.562	0.06103	0.005595953
2014	0.055771578	0.025	0.023280469	O	O	0.044162179	0.022102	0.03616	1.318	1.478	0.019807219
2015	0.007928081	-0.0058	-0.003078288	O	O	0.025952861	0.022602	0.03573	0.541	0.34016	0.011479519
2016	0.009689059	0.0021	0.003129966	O	O	0.058307125	0.031014	0.04787	1.577	0.40628	-0.001706575
2017	0.030780213	0.0196	0.021295041	O	O	0.02322599	0.015087	0.02711	0.701	1.28047	0.016738303
2018	-0.0150302	0.0067	0.004198161	U	U	0.040971574	0.032778	0.04764	0.491	-0.3888	-0.018778377
2019	-0.00324051	0.0109	0.012079475	U	U	0.048112668	0.023857	0.0346	1.159	0.12387	-0.017342272
2020	0.022078715	0.0177	0.016727031	O	O	0.120990014	0.102735	0.10318	1.11	0.1114	0.003375378
2021	0.039260332	0.017	0.018306671	O	O	0.054766354	0.036498	0.03538	0.087	0.57445	0.030663492

Source: Computed through excel on the basis of data collected from [www.valuresearch.com](http://www.valuresearch.com)

The above tables highlights that the security generated positive returns for 10 years. The highest return (0.0675) was in 2009 and the lowest return (-0.0734) was in 2008. The highest variability (0.1239) was recorded in the year 2009 and the lowest variability (0.0232) was recorded in the year 2017. The Sensex Index return and Nifty Index return remained positive for 11 years. The fund remained risky in comparison with the Sensex for 14 years and 8 years for the Nifty. Out of the total correlations, eleven correlations were high for Sensex and Nifty. The scheme outperformed the market over the study period for 10 years except 2008, 2011, 2018 and 2019 for Sensex and Nifty. In 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016, 2019 and 2020 the Beta ratio was higher than 1 and the other years Beta ratio was lower than 1, whereas, the Sharpe ratio was below 1 for 12 years, where, in 2014 and 2017 the Sharpe ratio was above 1 and the Jensen ratio remained positive for 9 years.

### 5. Sundaram Mid Cap Fund - (Erstwhile Sundaram Select Midcap Reg)

<i>Fund</i>	<i>Sundaram Mid Cap Fund</i>										
<i>Year</i>	<i>Avg Return</i>	<i>Sensex Return</i>	<i>Nifty Returns</i>	<i>Trend(Sensex)</i>	<i>Trend(Nifty)</i>	<i>SD of Fund Return</i>	<i>SD of Sensex</i>	<i>SD of Nifty</i>	<i>Beta</i>	<i>Sharpe</i>	<i>Jensen</i>
2008	-0.06387386	-0.0586	-0.052856896	U	U	0.114663047	0.0635	0.10962	1.016	-0.3155	-0.0048
2009	0.075378767	0.0541	0.050386135	O	O	0.160689879	0.07813	0.09433	1.653	0.25502	0.00842
2010	0.016621393	0.0131	0.01446593	O	O	0.041096263	0.02948	0.04887	1.049	0.33388	0.00302
2011	-0.02054913	-0.0179	-0.021538858	U	O	0.060582524	0.033768	0.06332	1.426	-0.4514	0.00788
2012	0.02830674	0.0164	0.021386208	O	O	0.049305322	0.026443	0.04946	1.185	0.47473	0.00978
2013	0.00499136	0.0069	0.005818767	U	U	0.051509583	0.026141	0.04432	1.001	-0.0662	-0.0019
2014	0.049204481	0.025	0.023280469	O	O	0.057398281	0.022102	0.03616	1.754	1.02276	-0.0018
2015	0.009411172	-0.0058	-0.003078288	O	O	0.035244624	0.022602	0.03573	0.916	0.29256	0.0148
2016	0.011117351	0.0021	0.003129966	O	O	0.067981153	0.031014	0.04787	1.701	0.36948	-0.0023
2017	0.029227631	0.0196	0.021295041	O	O	0.026731154	0.015087	0.02711	0.61	1.05449	0.01686
2018	-0.01274673	0.0067	0.004198161	U	U	0.048624536	0.032778	0.04764	0.595	-0.2807	-0.0171
2019	0.000647265	0.0109	0.012079475	U	U	0.044081571	0.023857	0.0346	1.074	0.22339	-0.0117
2020	0.016028283	0.0177	0.016727031	U	U	0.111791283	0.102735	0.10318	1.007	0.06645	-0.0017
2021	0.027417428	0.017	0.018306671	O	O	0.034867477	0.036498	0.03538	0.671	0.56263	0.01344

Source: Computed through excel on the basis of data collected from [www.valuresearch.com](http://www.valuresearch.com)

The above table highlights that the security generated positive returns for 11 years. The highest return (0.0754) was in 2009 and the lowest return (-0.0639) was in 2008. The highest variability (0.1607) was recorded in the year 2009 and the lowest variability (0.0267) was recorded in the year 2017. The Sensex Index return and Nifty Index return remained positive for 11 years. The fund remained risky in comparison with the Sensex for 13 years and 8 years for the Nifty. Out of the total correlations, ten correlations were high for Sensex and eleven correlations were high for Nifty. The scheme outperformed the market over the study period for 8 years except 2008, 2011, 2013, 2018, 2019 and 2020 for Sensex, and the scheme outperformed the market over the study period for 9 years except 2008, 2013, 2018, 2019 and 2020 for Nifty. In 2008, 2009, 2010, 2011, 2013, 2014, 2016, 2019 and 2021 Beta ratio was higher than 1 and the other year Beta ratio was lower than 1, whereas, the Sharpe ratio was below 1 for 12 years, where, in 2014 and 2017 the Sharpe ratio was above 1 and in the Jensen ratio, it generates positive results for 7 years.

### 6.3. Analysis of the performance of the selected equity Mutual Fund Schemes with respect to Sensex and Nifty.

#### 1. DSP BlackRock Small Cap Fund (Erstwhile DSPBR Micro Cap)

<i>Fund</i>	<i>DSP Small Cap Fund - Regular Plan</i>					
<i>Year</i>	<i>r (Sensex)</i>	<i>Sig*</i>	<i>Degree of r (Sensex)</i>	<i>r (NIFTY)</i>	<i>Sig*</i>	<i>Degree of r (Nifty)</i>
2008	0.978	0.00	H	0.975	0.00	H
2009	0.985	0.00	H	0.979	0.00	H
2010	0.863	0.00	H	0.909	0.00	H
2011	0.739	0.00	M	0.787	0.00	M
2012	0.954	0.00	H	0.931	0.00	H
2013	0.803	0.00	H	0.869	0.00	H
2014	0.994	0.00	H	0.979	0.00	H
2015	-0.79	0.00	L	-0.784	0.00	L

2016	0.948	0.00	H	0.929	0.00	H
2017	0.905	0.00	H	0.904	0.00	H
2018	-0.461	0.131	L	-0.035	0.914	L
2019	0.357	0.255	L	0.64	0.025	M
2020	0.97	0.00	H	0.972	0.00	H
2021	0.925	0.00	H	0.938	0.00	H

Source: Computed by the researcher with the help SPSS.

In 2015 & 2018 the correlation of Sensex and Nifty was recorded negative. The correlations with Sensex are significant at 5% level except for 2018 and 2019. The correlations with Nifty are significant at 5% level except for 2018. A high correlation is recorded for 10 years with BSE Sensex and 10 years with Nifty.

### 1. HDFC Mid-Cap Opportunities Fund

<i>Fund</i>	<b>HDFC Mid-Cap Opportunity Fund</b>					
<i>Year</i>	<i>r (Sensex)</i>	<i>Sig*</i>	<i>Degree of r (Sensex)</i>	<i>r (NIFTY)</i>	<i>Sig*</i>	<i>Degree of r (Nifty)</i>
2008	0.97	0.00	H	0.977	0.00	H
2009	0.986	0.00	H	0.981	0.00	H
2010	0.935	0.00	H	0.957	0.00	H
2011	0.536	0.00	M	0.61	0.035	M
2012	0.967	0.00	H	0.938	0.00	H
2013	0.868	0.00	H	0.904	0.00	H
2014	0.992	0.00	H	0.983	0.00	H
2015	-0.359	0.252	L	-0.248	0.438	L
2016	0.959	0.00	H	0.935	0.00	H
2017	0.944	0.00	H	0.939	0.00	H
2018	-0.144	0.654	L	0.339	0.281	L
2019	0.433	0.159	L	0.732	0.007	M
2020	0.988	0.00	H	0.989	0.00	H
2021	0.956	0.00	H	0.969	0.00	H

Source: Computed by the researcher with the help SPSS.

In 2015 & 2018 the correlation of Sensex was recorded negative, where, in 2015 the correlation of Nifty was recorded negative. The correlations with Sensex are significant at 5% level except for 2015, 2018 and 2019. The correlations with Nifty are significant at 5% level except for 2015 and 2018. A high correlation is recorded for 10 years with BSE Sensex and 10 years with Nifty.

## 2. ICICI Prudential Value Discovery Fund

<i>Fund</i>	ICICI Prudential Value Discovery Fund					
<i>Year</i>	<i>r (Sensex)</i>	<i>Sig*</i>	<i>Degree of r (Sensex)</i>	<i>r (NIFTY)</i>	<i>Sig*</i>	<i>Degree of r (Nifty)</i>
2008	0.962	0.00	H	0.991	0.00	H
2009	0.989	0.00	H	0.982	0.00	H
2010	0.938	0.00	H	0.969	0.00	H
2011	0.933	0.00	H	0.95	0.00	H
2012	0.958	0.00	H	0.9	0.00	H
2013	0.797	0.00	H	0.875	0.00	H
2014	0.992	0.00	H	0.994	0.00	H
2015	0.374	0.231	L	0.428	0.166	L
2016	0.954	0.00	H	0.98	0.00	H
2017	0.945	0.00	H	0.964	0.00	H
2018	0.622	0.031	M	0.81	0.001	H
2019	0.539	0.071	M	0.736	0.006	M
2020	0.95	0.00	H	0.957	0.00	H
2021	0.978	0.00	H	0.987	0.00	H

Source: Computed by the researcher with the help SPSS.

In 2015 & 2018 the correlation of Sensex was recorded negative, where, in 2015 the correlation of Nifty was recorded negative. The correlations with Sensex are significant at 5% level except for 2015 and 2019. The correlations with Nifty are significant at 5% level except for 2015 and 2018. A high correlation is recorded for 11 years with BSE Sensex and 12 years with Nifty.

## 3. Franklin India Smaller Companies Fund

<i>Fund</i>	Franklin India Smaller Companies Fund					
<i>Year</i>	<i>r (Sensex)</i>	<i>Sig*</i>	<i>Degree of r (Sensex)</i>	<i>r (NIFTY)</i>	<i>Sig*</i>	<i>Degree of r (Nifty)</i>
2008	0.969	0.00	H	0.963	0.00	H
2009	0.99	0.00	H	0.991	0.00	H
2010	0.915	0.00	H	0.95	0.00	H
2011	0.878	0.00	H	0.928	0.00	H
2012	0.969	0.00	H	0.937	0.00	H
2013	0.936	0.00	H	0.921	0.00	H

2014	0.995	0.00	H	0.986	0.00	H
2015	-0.476	0.117	L	-0.386	0.215	L
2016	0.97	0.00	H	0.963	0.00	H
2017	0.954	0.00	H	0.952	0.00	H
2018	-0.386	0.215	L	0.43	0.894	L
2019	0.047	0.884	L	0.357	0.255	L
2020	0.974	0.00	H	0.972	0.00	H
2021	0.916	0.00	H	0.927	0.00	H

Source: Computed by the researcher with the help SPSS.

In 2015 & 2018 the correlation of Sensex was recorded negative, where, in 2015 the correlation of Nifty was recorded negative.. The correlations with Sensex are significant at 5% level except for 2015, 2018 and 2019. The correlations with Nifty are significant at 5% level except for 2015, 2018 and 2019. A high correlation is recorded for 11 years with BSE Sensex and 11 years with Nifty.

#### 4. Sundaram Mid Cap Fund

<i>Fund</i>	<b>Sundaram Mid Cap Fund</b>					
<i>Year</i>	<i>r (Sensex)</i>	<i>Sig*</i>	<i>Degree of r (Sensex)</i>	<i>r (NIFTY)</i>	<i>Sig*</i>	<i>Degree of r (Nifty)</i>
2008	0.971	0.00	H	0.989	0.00	H
2009	0.987	0.00	H	0.992	0.00	H
2010	0.947	0.00	H	0.962	0.00	H
2011	0.708	0.01	M	0.733	0.007	M
2012	0.95	0.00	H	0.974	0.00	H
2013	0.803	0.002	H	0.889	0.00	H
2014	0.991	0.00	H	0.985	0.00	H
2015	-0.32	0.311	L	-0.269	0.398	L
2016	0.955	0.00	H	0.933	0.00	H
2017	0.954	0.00	H	0.955	0.00	H
2018	-0.302	0.34	L	0.143	0.648	L
2019	0.518	0.085	M	0.79	0.002	H
2020	0.949	0.00	H	0.946	0.00	H
2021	0.97	0.00	H	0.977	0.00	H

Source: Computed by the researcher with the help SPSS.

In 2015 & 2018 the correlation of Sensex was recorded negative, where, in 2015 the correlation of Nifty was recorded negative. The correlations with Sensex are significant at 5% level except for 2015, 2018 and 2019. The correlations with Nifty are significant at 5% level except for 2015 and 2018. A high correlation is recorded for 10 years with BSE Sensex and 11 years with Nifty.

If we observe the overall correlation of the Mutual fund schemes with the market indices for the overall time period i.e 2008-2021, we can see that all the five top performing funds are highly correlated with the two benchmark indices and they are significant at 5% level of significance.

Fund	BSE SENSEX (r <sub>1</sub> )	Sig Level	NIFTY 50 (r <sub>2</sub> )	Sig Level
DSP Small Cap Fund - Regular Plan	0.926	.000	0.937	.000
HDFC Mid-Cap Opportunity Fund	0.955	.000	0.965	.000
ICICI Prudential Value Discovery Fund	0.965	.000	0.970	.000
Franklin India Smaller Companies Fund	0.950	.000	0.960	.000
Sundaram Mid Cap Fund	0.957	.000	0.964	.000

## 7. Conclusion

The paper is classified into three main sections. The first section captures the growth of the mutual fund industry in terms of resource mobilization and assets under management and this confirms that investors are preferring to park their savings into different mutual fund schemes according to their risk appetite. The mutual fund industry has huge scope of development because of a number of parameters like significant and substantial returns, rising income, transparency and ease of operations, product innovations, safety and protection norms and ever booming capital market. The second section reflects the performance of the mutual funds. Here, the return and risk of the Mutual fund schemes are compared with the two popular benchmark indices i.e, BSE Sensex and Nifty.

### Snapshot of comparison of returns with BSE Sensex

Fund	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
DSP BlackRock Small Cap Fund	U	O	O	U	O	U	O	O	O	O	U	U	O	O
HDFC Mid-Cap Opportunities Fund	O	O	O	O	O	O	O	O	O	O	U	U	O	O
ICICI Prudential Value Discovery Fund	O	O	O	U	O	O	O	O	O	U	U	U	O	O
Franklin India Smaller Companies Fund	U	O	O	U	O	O	O	O	O	O	U	U	O	O
5. Sundaram Mid Cap Fund	U	O	O	U	O	U	O	O	O	O	U	U	U	O

If we see the data then we can see HDFC Mid cap opportunities fund has outperformed the market maximum number of time and the Sunderam Midcap fund has outperformed the market for only 8 years out of 14 years, which is the minimum. It is also to be noted that all the funds have underperformed in 2018 and 2019.



**Snapshot of comparison of returns with Nifty**

Fund	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
DSP BlackRock Small Cap Fund	U	O	O	U	O	U	O	O	O	O	U	U	O	O
HDFC Mid-Cap Opportunities Fund	U	O	O	O	O	O	O	O	O	O	U	O	O	O
ICICI Prudential Value Discovery Fund	U	O	O	O	O	O	O	O	O	U	U	U	O	O
Franklin India Smaller Companies Fund	U	O	O	U	O	O	O	O	O	O	U	U	O	O
Sundaram Mid Cap Fund	U	O	O	O	O	U	O	O	O	O	U	U	U	O

If we see the data then we can see HDFC Mid cap opportunities fund has outperformed Nifty maximum number of time and the Sunderam Midcap and DSP Blackrock Small Cap fund has outperformed the market for only 9 years out of 14 years, which is the minimum. It is also to be noted that all the funds have underperformed in 2008 and 2018.

The systematic risk (Beta) indicates the fund volatility. Franklin India Smaller Companies Fund and Sundaram Mid Cap Fund remained most volatile during the entire study period.

The positive value of Jensen's alpha indicates the efficiency of the fund manager. It shows the 'stock piling' ability of the fund manager. Out of the five funds, HDFC Mid Cap Opportunities fund and ICICI Prudential Value Discovery Fund has the maximum number of positive Jensen's alpha indicating best stock selection skills of the fund manager.

The third section of the paper explores the relationship between the mutual fund schemes and the market indices (BSE Sensex and Nifty). We can observe that all the funds are highly correlated with the market and is significant at 1% level of significance. In the entire study period, ICICI Prudential Value Discovery Fund has highest number of high correlations during the entire study period.

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