A Comparative Assessment of Large- and Small-cap Mutual Fund Schemes in India Throughout Different Phases

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Abstract

In this paper, we attempted to analyse comparative performance of large- and small-cap equity fund schemes through different phases such as the pre-Covid (2017–19), Covid (2020–21), and post- Covid (2022–2024) in India. In this study, stock selectivity skill and persistence of fund manager's performance have been examined by taking fourteen open-ended mutual fund schemes. The research considered weekly data of benchmark indices (i.e., the Nifty 100 for large-cap funds and the Nifty small-cap 250 for small-cap funds) and closing NAV for different schemes. Different techniques such as CAGR, Treynor, Sharpe, Jensen alpha, Sortino, M squared and Risk Information ratios have been employed for that purpose. The study concluded that large-cap funds showed more stability, while small-cap funds outperformed during Covid and post- Covid phases. Moreover, small-cap fund managers have been shown more persistent and better stock selectivity skills throughout all phases, particularly during the Covid phase.

Keywords: Equity Mutual Funds; Risk-adjusted Measure; Stock Selectivity skills; Persistency.

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1. Introduction

Mutual funds combine the capital of investors to invest in equities, bonds, money markets and other securities, while providing diversification and expert oversight. Consequently, mutual funds are becoming a more appealing choice for investors to achieve their financial goals. Supported by favourable economic conditions, greater investor engagement, and improved financial literacy, the sector has grown sharply in recent years. For instance, Assets Under Management (AUM) have increased significantly from Rs. 6.13 lakhs Cr. as on March, 2010 to Rs. 66.93 lakhs Cr. as on December, 2024 which marks nearly eleven times increase in AUM over the past decade. An increase in AUM indicates that large investors have adhered to mutual funds as a vehicle for enduring capital appreciation.

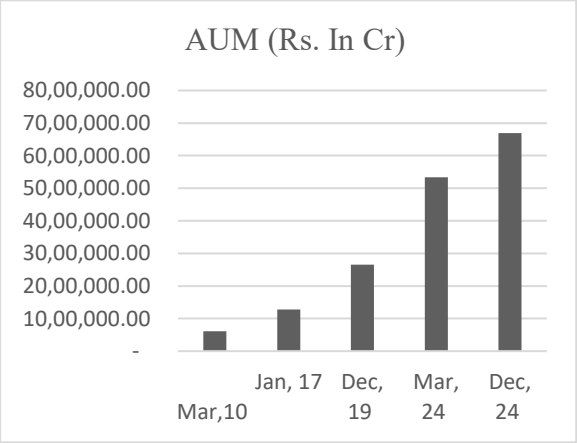

Figure 1: AUM Data for Mutual Funds contribution

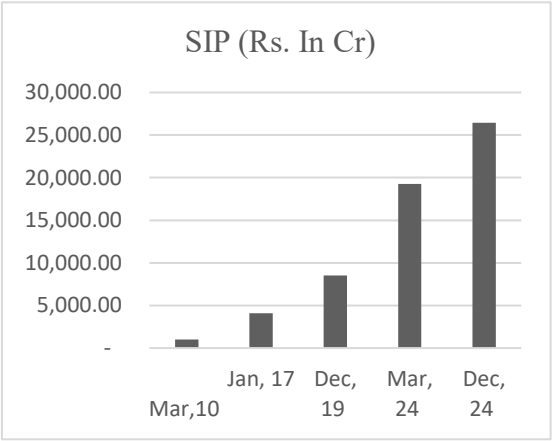

Figure 2: SIP per month

Source: AMFI (www.amfiindia.com)

On the other hands, systematic investment plan (SIP) enables investors to capitalize on the rupee-cost averaging via steady investment in mutual funds. SIP contributions were around Rs. 1,000 crores per month in 2010. But SIP also gained popularity over the past decade. The AMFI data showed that SIP inflows in India have increased significantly with monthly contributions surpassing more than Rs. 26,000 crores in Dec, 2024. Thus, with increasing

AUM and the extensive use of SIPs, the sector has steadily become an integral part of India's financial market in recent decades. In contrast, several studies have revealed that majority of mutual fund schemes exceed their benchmark relative to risk-adjusted returns (Ashraf and Sharma, 2014; Adhav and Chauhan, 2015; Murthy et al., 2022 and Srivastava et al., 2023), whereas few studies found underperformance (Sharpe, 1966; Deb et al., 2007 and Dhanda et al., 2012). Moreover, it is also found that Equity and Hybrid Funds are quite volatile than the debt funds (Sharma and Joshi, 2021). Additionally, evidence suggests foreign-sponsored schemes outperformed than those sponsored by public and private companies (Ghosh, 2014). However, scarce research in India has compared large- and small-cap funds across different Covid-19 phases. Therefore, it is relevant to reassessment their performance during different time phases of Covid-19.

In this study, major financial risk ratios will be evaluated in order to undertake a systematic risk assessment and a comparative analysis between the chosen large- and small-cap schemes in India have been done throughout various investment periods. Thus, the assessment of risk and performance parameters will help investors in making well-informed choices and to improve understanding about mutual fund patterns among diverse market-cap tiers.

2. Review of Literature

This section discusses a couple of studies that played a role in the writing of this paper.

Treynor (1965) created a single line index, Tn, known as the Treynor index, by combining several ideas. His index calculates the portfolio's risk premium, which is correlated with the level of systematic risk assumed; a greater Tn value indicates better fund performance. Sharpe (1966) assigned a rank to the portfolio's results on the basis of the riskiest portfolio as the benchmark and also created a Sharpe index. The asset with the highest reward-to-variability is the one that is risk-free. The study revealed each scheme's reward-to-variability ratios ranged from 0.43 to 0.78, which was much less

than DJIA possibly due to management abilities or high fund expenses. Jensen (1968) investigated at the absolute performance of MFs in comparison to a benchmark performance by using sample data of 115 MFs and discovered that fund managers fail to earn enough returns to offset their management fees and research costs. The study concludes that there is little evidence found that any portfolio outperformed a pure chance. Grinblatt and Titman (1992) studied mutual fund performance during 1974-1984. They found that a manager's capacity to earn excess returns complies with resilience of performance disparities throughout time. Jayadev (1996) and Deb et al., (2007) found that only a small number of schemes outperform their benchmarks, often without statistical significance. It is suggesting that most fund managers failed to generate consistent excess returns. Dhanda et al. (2012), Ghosh (2014), Sharma (2016) similar reported that only few schemes surpassed benchmarks, although foreign-sponsored funds tended to perform better than domestic ones. In contrast, Ashraf & Sharma (2014), Bhagyasree and Kishori (2016) and Tripathy (2017) revealed that chosen schemes consistently achieved positive risk-adjusted returns, primally due to managers' stock selectivity rather than market timing. Similarly, Murthy et al. (2022) and Srivastava et al. (2023) observed that most schemes outperformed their benchmarks, with superior performance attributed to effective securities selection rather than timing the market. Furthermore, sectoral and debt funds have been observed to surpass their benchmark, with returns positively correlated with benchmarks (Adhav and Chauhan, 2015; Kaur and Bala, 2020; Choksi and Bhatt, 2020). Similarly, Sharma and Joshi, (2021) observed that debt funds performed best, whereas equity schemes performed ordinary or below average, with higher volatility. However, Zafar et al., (2015) and Sharma and Joshi, (2021) highlighted metric-dependent variability, where a fund might excel on one measure but lag on another. Thus, the literature indicates inconclusive and context-specific findings, highlighting the need to re-examine mutual fund performance.

3. Objectives

The study has the followings objectives-

- To compare the risk-return performance of chosen large- and small-cap mutual fund schemes against benchmark index.
- To examine and compare the stock picking ability by the fund managers across chosen large- and small-cap schemes.
- To examine and compare the fund manager's performance in terms of persistence and consistence.

4. Methodology of the Study

4.1 Data and Sources-

This analysis uses secondary weekly data during January 2017 to December 2024. For the purpose of the study, we separate the entire time frame into three phases, such as the pre-Covid period (2017–19), the Covid period (2020–21), and the post-Covid period (2022–2024). Further, the study aims to analyze open-ended Indian mutual fund schemes that belong in equity. Accordingly, seven large-cap and seven small-cap have been chosen based on AUM and data availability. Table 1 represents names of chosen large- and small-cap schemes.

Table 1: Name of the equity oriented Mutual Funds Schemes

Sl. No.	Large- Cap Equity oriented Schemes (Direct plan – Growth Option)	Small- Cap Equity oriented Schemes (Direct plan – Growth Option)
1.	Edelweiss Large Cap Fund	Aditya Birla Sun Life Small Cap Fund
2.	HDFC Large Cap Fund	Axis Small Cap Fund
3.	LIC MF Large Cap Fund	HDFC Small Cap Fund
4.	Nippon India Large Cap Fund	ICICI Prudential Smallcap Fund
5.	BANDHAN Large Cap Fund	Nippon India Small Cap Fund
6.	Invesco India Largecap Fund	Quant Small Cap Fund
7.	Tata Large Cap Fund	SBI Small Cap Fund

On the other hand, Nifty small-cap 250 and Nifty 100 have served as benchmark index for small-cap and large-cap funds respectively. The weekly closing prices of benchmark indices and net asset values have been obtained

from databases of National Stock Exchange, Securities and Exchange Board of India and Association of Mutual Funds of India. Further, the yields on 91-day treasury bills issued by the Reserve Bank of India have been taken as a proxy for risk-free return.

4.2 Techniques of the Study-

4.2.1 Return-

The monthly returns are calculated for each mutual fund scheme that is being assessed as follows:

$$\text{Return } (r_i) = Ln\left(\frac{NAV_t}{NAV_{t-1}}\right)$$

Where, Ln represent natural logarithms. NAV_t is net asset value for week t. NAV_{t-1} is net asset value for previous week i.e., t-1.

For the benchmark index:

$$\text{Return} = Ln\left(\frac{Index_t}{Index_{t-1}}\right)$$

Where, $Index_t$ is closing price of weekly benchmark index at time t. $Index_{t-1}$ is closing price of weekly benchmark index at time t-1.

Risk free rate (r_f)-

It refers to the returns that an investor may expect when making a financial investment with no risk (Chandra,2023). The average of 91 days Treasury bill weekly yields is considered as a proxy for r_f.

4.2.2 To compare the performance between various categories, average returns, CAGR (as a measure of returns), beta and SD (as a measure of risk), Sharpe and Treynor (as a measure of risk-adjusted performance), Sortino ratio (as a measure of excess return to downside risk) have been considered.

Compound Annual Growth Rate (CAGR)-

It shows an investment's average yearly growth percentage over a specific period of time, assuming that the gains are reinvested at the completion of each period. It helps to compare different mutual fund schemes to identify which perform better over time.

$$CAGR = \left(\frac{FV}{IV}\right)^{\frac{1}{n}} - 1$$

Where, IV = Initial value of the investment. FV = Final value of the investment. n = Number of years.

Standard Deviation-

Standard deviation of the weekly returns serves as an indicator for overall risk and is assessed using the formula below:

$$\sigma = \sqrt{\frac{\sum(r_t - \bar{r})^2}{n-1}}$$

Where, σ= Standard Deviation. n= no. of weekly returns. r_t= weekly returns of the mutual fund. $\bar{r}$= mean return of the mutual fund;

Beta (β)-

"Beta represents the systematic risk of the funds, reflecting the sensitivity of its returns to the market movements" (Chandra, 2023).

$$\beta = \frac{Covariance\ between\ fund\ return\ and\ market\ return}{Variance\ of\ market\ return}$$

Sharpe Ratio-

"It refers risk premium for each unit of total risk" (Sharpe,1966). It evaluates whether a fund's returns stem from prudent choices or excessive exposure, where higher positive ratio signals stronger performance and vice-versa.

$$\text{Sharpe Ratio } (S_p) = \frac{(r_p - r_f)}{\sigma_p}$$

Where, σ_p= Standard deviation of the portfolio. r_f= Risk-free return. r_p= Portfolio return.

Treynor Ratio-

"The excess return for each unit of systematic risk is measured by this ratio" (Treynor,1965). A higher value proposes superior performance and vice-versa.

$$\text{Treynor Ratio } (T_p) = \frac{r_p - r_f}{\beta_p}$$

Where, r_p= Portfolio return. r_f= Risk-free return. β_p= Beta of the portfolio.

Sortino Ratio-

"Its emphasis on downside risk instead of total risk (i.e., standard deviation)" (Sortino and Van Der Meer, 1991). Positive value denotes return for each unit of downside risk and vice-versa. Hence, Superior performance of funds is indicated by a higher Sortino ratio.

$$Sortino\ Ratio\ = \frac{(r_p - r_f)}{\sigma_d}$$

Where, σ_d= Downward standard deviation of the portfolio. r_p= Portfolio return. r_f= Risk free return.

4.2.3 To compare the stock picking ability by the fund manager's, Jensen's alpha has been considered.

Jensen's Alpha-

"It is a performance measure that represents an investment's excess returns in comparison to the Capital Asset Pricing Model's (CAPM) anticipated returns" (Jensen, 1968). It represents a fund manager's capability to deliver excess returns beyond market risk prediction, making it a key indicator of stock selection skill.

$$\text{Jensen's Alpha } (J_p) = r_p - \{r_f + \beta_p(r_m - r_f)\}$$

Where, r_p= Portfolio return. r_f= Risk-free return. r_m= Market return. β_p= Beta of the portfolio.

4.2.4 To compare the fund manager's performance in terms of persistence and consistence, M^2 measure and Risk Information Ratio (IR) have been considered.

M^2 measure-

Modigliani and Modigliani (1997) M -square is an indicator of risk-adjusted outcome that aligns a portfolio's return with the risk of a benchmark. It is equal to zero for a portfolio that replicates the performance of the

benchmark portfolio, whereas a positive value indicates a portfolio that outperforms the market.

$$M^2 = (r_p - r_f) \times \frac{\sigma_m}{\sigma_p} + (r_f)$$

Where, σ_m= Standard deviation of the market. σ_p= Standard deviation of the portfolio. r_p= Portfolio return. r_f= Risk-free return;

Risk Information Ratio (IR)-

This metric evaluates the excess returns generated by an investment relative to its tracking error. Information ration is a significant indicator of the persistence performance by the fund manager. A higher IR shows that fund managers may take on more risk and generate more return more effectively than one with a low ratio.

$$IR = \frac{r_p - r_m}{\sigma_T}$$

Where, r_p= Portfolio return. r_m= Benchmark return. e= Tracking error (i.e., standard deviation of the difference between portfolio and benchmark returns).

5. Analysis and Findings of the study

Table 2: Results of CAGR and standard Deviation (SD)

Particulars	CAGR (%)			SD		
	2017-19	**20-21**	**22-24**	**2017-19**	**20-21**	**22-24**
Nifty 100	13.04	19.31	10.72	0.0176	0.033	0.018
Large-cap Fund						
Edelweiss	15.90	21.74	14.93	0.0175	0.032	0.018
HDFC	13.09	16.80	16.74	0.0197	0.035	0.018
LIC MF	14.93	19.68	9.93	0.0173	0.029	0.018
Nippon India	14.77	18.30	20.37	0.0199	0.035	0.018
BANDHAN	13.43	22.83	14.12	0.0175	0.030	0.019
Invesco India	14.05	24.00	14.86	0.0166	0.032	0.018

Tata	13.28	20.31	13.57	0.0179	0.034	0.018
Nifty Smallcap 250	-0.04	40.89	20.90	0.0269	0.041	0.027
Small-cap Fund						
Aditya Birla Sun Life	2.18	35.03	17.31	0.0243	0.039	0.024
Axis	14.73	40.88	20.88	0.0169	0.033	0.021
HDFC	10.49	40.93	22.58	0.0207	0.037	0.023
ICICI Prudential	7.73	41.34	19.93	0.0218	0.038	0.021
Nippon India	9.47	50.31	26.29	0.0240	0.039	0.024
Quant	-6.46	82.48	25.27	0.0186	0.037	0.028
SBI	15.41	41.01	19.73	0.0229	0.034	0.020

Source: Compiled by authors.

Table 2 shows that all large-cap funds outperformed the benchmark index based on CAGR during the pre-Covid era. Small-cap funds, on the other hand, performed worse during this time, yielding negative returns and greater risk, maybe as a result of investor caution and market stability. However, during the Covid-19 pandemic, small-cap funds surpass large-cap funds with the same degree of risk and generated outstanding gains. Even while the increase was slower than the pandemic-driven surge, some funds showed more consistent returns in the post- Covid period, and small-cap funds continually outpaced large-cap with a bit more risk. Since the CAGR and SD figures do not allow us to draw any conclusions, we will proceed to a risk-adjustment performance study.

Table 3: Results of Beta and Treynor Ratio

Mutual Fund Schemes (Direct plan – Growth Option)	Beta			Treynor Ratio		
	2017-19	20-21	22-24	2017-19	20-21	22-24
Large-cap Fund						
Edelweiss	0.9408	0.8401	0.9299	0.0018	0.0037	0.0017

HDFC	1.0475	1.0112	0.9355	0.0011	0.0023	0.0020
LIC MF	0.9323	0.8586	0.9364	0.0016	0.0033	0.0007
Nippon India	1.0639	1.0160	0.9348	0.0014	0.0025	0.0026
BANDHAN	0.9632	0.8961	0.7920	0.0013	0.0037	0.0018
Invesco India	0.8976	0.9469	0.9314	0.0015	0.0037	0.0016
Tata	0.9883	1.0028	0.9375	0.0012	0.0029	0.0014
Small-cap Fund						
Aditya Birla Sun Life	0.8752	0.9350	0.7367	-0.0010	0.0050	0.0032
Axis	0.5566	0.7648	0.6295	0.0024	0.0072	0.0047
HDFC	0.7340	0.8978	0.8220	0.0009	0.0061	0.0039
ICICI Prudential	0.1579	0.2325	0.7349	0.0008	0.0238	0.0038
Nippon India	0.8641	1.1007	0.8625	0.0005	0.0061	0.0044
Quant	0.2261	0.6092	0.9646	-0.0115	0.0172	0.0038
SBI	0.2747	0.8023	0.6658	0.0053	0.0068	0.0041

Source: Compiled by authors.

Table 3 shows that large-cap funds are comparatively stable performance with moderate risk exposure during the pre-Covid period (2017-2019), as seen by their beta levels, which primarily stayed between 0.9 and 1.0. Whereas small-cap funds show greater volatility; some of these funds have maintained much lower beta values, indicating resilience from market changes. However, large-cap schemes deliver better returns than small-cap after taking systematic risk, according to the Treynor ratio. During the Covid era (2020–2021), some large-cap funds nearly doubled their risk-adjusted returns, while beta values for these funds somewhat decreased. In contrast, small-cap funds showed a significant rise in beta, with their risk-adjusted returns increasing by nearly five to ten times, indicating robust performance and improved risk compensation throughout this time. Again, large-cap funds mostly reverted

to their pre-pandemic risk levels over post-Covid period (2022–2024), with beta values levelling out around prior averages. However, in comparison to the Covid period, their Treynor Ratios usually decreased, indicating lesser excess returns. Conversely, beta movements of small-cap funds varied; some funds witnessed a decline in risk, while others remained high. Even though small-cap funds' Treynor ratio dropped from Covid-phase highs, they still outpaced large-cap schemes.

Table 4: Results of Sharpe and Sortino Ratios

Mutual Fund Schemes (Direct plan – Growth Option)	Sharpe Ratio			Sortino Ratio		
	2017-19	20-21	22-24	2017-19	20-21	22-24
Large-cap Fund						
Edelweiss	0.0956	0.0975	0.0844	0.1376	0.0926	0.1245
HDFC	0.0608	0.0674	0.1027	0.0924	0.0719	0.1510
LIC MF	0.0875	0.0960	0.0360	0.1308	0.0912	0.0548
Nippon India	0.0746	0.0737	0.1312	0.1168	0.0758	0.1952
BANDHAN	0.0717	0.1090	0.0711	0.1034	0.0990	0.0916
Invesco India	0.0820	0.1087	0.0812	0.1209	0.0992	0.1182
Tata	0.0687	0.0856	0.0705	0.0984	0.0823	0.1074
Small-cap Fund						
Aditya Birla Sun Life	-0.0366	0.1175	0.0960	-0.0573	0.1104	0.1047
Axis	0.0797	0.1634	0.1405	0.1376	0.1449	0.1658
HDFC	0.0301	0.1444	0.1366	0.0528	0.1368	0.1646
ICICI Prudential	0.0061	0.1457	0.1302	0.0087	0.1545	0.1697
Nippon India	0.0185	0.1721	0.1552	0.0294	0.1610	0.1929
Quant	-0.1392	0.2802	0.1297	-0.1398	0.3028	0.1513
SBI	0.0640	0.1605	0.1362	0.1031	0.1475	0.1776

Source: Compiled by authors.

Table 4 shows that large-cap funds have generated comparatively steady with moderate risk-adjusted returns over the pre- Covid period (2017–2019). However, large-cap funds show lower returns per unit of total risk, as indicated by their Sharpe Ratios, which varied from 0.06 to 0.09. Additionally, they have moderate Sortino ratios, which measure downside risk, indicating regulated volatility with little deviations to the downside. In contrast, small-cap funds saw far higher volatility. With certain funds displaying negative Sharpe and Sortino Ratios (such as Quant Small Cap Fund at -0.1392 and -0.139 respectively), suggesting lower risk-adjusted returns and higher downside risk. However, a few small-cap funds, including SBI and Axis, generated competitive risk-adjusted growth. During the Covid era (2020–2021), Sharpe ratios of large-cap funds improved marginally, whereas Sortino ratios of large cap funds fall significantly which indicate that lower returns for downside risk. On the other hand, small-cap funds saw a sharp increase in performance, with Sortino Ratios surpassing 0.3 and Sharpe Ratios reaching as high as 0.2802 (Quant Small Cap Fund), implying that despite the higher risks involved with small-cap companies, investors in small-cap funds profited from the market's robust post-pandemic recovery. Large-cap funds performed inconsistently in the years following the Covid-19 pandemic (2022–2024). While some funds' performance sharply falls, others showed improved risk-adjusted returns. However, the majority of small-cap funds-maintained Sharpe Ratios over 0.12 and Sortino Ratios above 0.15, showing sustained investor confidence than large cap funds. These funds continued to show outstanding risk-adjusted performance. However, Small-cap funds are extremely volatile but produced outstanding returns both during and after Covid, which attracted risk-averse investors looking for great growth prospects.

Table 5: Results of Jenson's Alpha

Mutual Fund Schemes (Direct plan – Growth Option)	Jenson's Alpha		
	2017-19	20-21	22-24
Large-cap Fund			
Edelweiss	-0.0002	0.0008	0.0002
HDFC	0.0003	-0.0004	0.0006

LIC MF	-0.0005	0.0004	-0.0006
Nippon India	0.0006	-0.0002	0.0012
BANDHAN	-0.0004	0.0009	-0.0022
Invesco India	-0.0012	0.0009	0.0002
Tata	-0.0002	0.0002	0.0000
Small-cap Fund			
Aditya Birla Sun Life	0.0003	-0.0005	0.0002
Axis	0.0021	0.0013	0.0011
HDFC	0.0016	0.0006	0.0008
ICICI Prudential	0.0003	0.0043	0.0006
Nippon India	0.0016	0.0007	0.0013
Quant	-0.0023	0.0072	0.0008
SBI	0.0018	0.0011	0.0008

Source: Compiled by authors.

Table 5 shows that during the pre- Covid era (2017–2019), managers for large cap funds have been struggling to generate excess returns i.e., measured by the alpha. Jensen's Alpha has been negative or almost zero for the majority of large-cap funds, suggesting that their stock-picking methods did not significantly outperform market returns. On the other hand, small-cap fund managers show superior stock-picking skills; funds such as Axis (0.0021), SBI (0.0018) and HDFC (0.0016) achieved positive alpha, suggesting that managers in the small-cap funds have been able to identify undervalued stocks with higher growth potential. During the Covid period (2020-2021), managers of large-cap funds improved their stock selection, including BANDHAN (0.0009) and Edelweiss (0.0008), which produced positive alpha, a sign of enhanced stock selection. Whereas some large-cap funds, including HDFC (-0.0004) and Nippon India (-0.0002), found it difficult to beat the market, indicating inefficiencies in the stock selection abilities of fund managers. Conversely, small-cap fund managers outperformed the market significantly, with ICICI Prudential (0.0043) and quant (0.0072) generating highest alpha among all funds. This suggests that small-cap fund managers proved to be relatively efficient compared with large-cap fund managers during this phase. Furthermore, the managers of large-cap funds faced difficulties in maintaining alpha creation during post-Covid period. While

some funds, like Nippon (0.0012), improved their stock selectivity, others, such as BANDHAN (-0.0022) and LIC MF (-0.0006), struggled, indicating difficulty in identifying winning stocks in a stabilizing market. However, the stock-picking performance of small-cap fund managers have been remained moderate but at a lower rate than during Covid. Overall, small-cap fund managers showed better stock selection abilities throughout all time periods, but especially during the Covid and post- Covid periods.

Table 6: Results of M Squared Measure and Risk Information Ratio

Mutual Fund Schemes (Direct plan – Growth Option)	M Squared Measure (M2)			Risk Information Ratio		
	2017-19	20-21	22-24	2017-19	20-21	22-24
Large-cap Fund						
Edelweiss	0.0029	0.0039	0.0028	0.0695	0.0234	0.1385
HDFC	0.0023	0.0029	0.0031	-0.0116	-0.0524	0.2730
LIC MF	0.0027	0.0039	0.0019	0.0428	0.0080	-0.0391
Nippon India	0.0025	0.0031	0.0037	0.0304	-0.0183	0.3605
BANDHAN	0.0024	0.0043	0.0025	-0.0049	0.0870	0.0474
Invesco India	0.0026	0.0043	0.0027	0.0155	0.1195	0.1431
Tata	0.0024	0.0035	0.0025	-0.0112	0.0270	0.1364
Small-cap Fund						
Aditya Birla Sun Life	0.0003	0.0060	0.0034	1.3240	-0.0950	-0.0383
Axis	0.0035	0.0079	0.0047	0.7710	-0.0001	-0.0002
HDFC	0.0021	0.0072	0.0046	0.9145	0.0005	0.0348
ICICI Prudential	0.0015	0.0072	0.0044	0.9831	0.0013	-0.0160
Nippon India	0.0018	0.0083	0.0051	0.9739	0.1581	0.1290

Quant	-0.0024	0.0128	0.0044	0.5249	0.1566	0.0798
SBI	0.0030	0.0078	0.0045	0.9164	0.0014	-0.0153

Source: Compiled by authors.

Table 6 shows that during the pre-Covid era (2017–2019), large-cap funds have been consistent and moderate risk-adjusted performance with M-Squared (M^2) values primarily ranging between 0.0023 and 0.0029, suggesting consistent returns in relation to market risk. However, their Risk Information Ratio (RIR) was fluctuating with some funds reporting positive numbers and others reporting negative figures, indicating impersistent performance from fund managers. Conversely, small-cap funds show sharp fluctuations that ranged from -0.0024 to 0.0035. All small-cap schemes, with the exception of quant, provide positive returns. However, high-Risk Information Ratios indicate that small-cap funds have been quite persistent. All funds in both categories witnessed improvements during the Covid period (2020–2021), although small-cap funds outperformed by a significant margin. Higher M2 values were typically reported by large-cap funds, indicating robust risk-adjusted returns. However, their Risk Information Ratios indicate a lack of consistency. On the other hands, small-cap funds performed much better including Nippon India (M2 = 0.0083) and Quant (M2 = 0.0128). At the same time, small-cap funds maintained outstanding risk information ratios especially for the Quant (0.1566) and Nippon India (0.1581), which show excellent stock selection and performance persistence. In the post-Covid period (2022-2024), large-cap funds return decline compared to the Covid period but remain stable. For example, Nippon India (M2 = 0.0037) and HDFC (M2 = 0.0031) indicate consistent risk-adjusted performance, whereas LIC MF (M2 = 0.0019) indicate decrease in returns. As Risk Information Ratios have been fluctuated, indicating persistence in large-cap funds more unpredictable. Whereas, small-cap funds are still provided better excess returns, though they were slightly lower than they were during Covid. Funds such as Nippon India (M^2 = 0.0051) and Axis (M^2 = 0.0047) still indicate strong risk-adjusted performance. However, persistence became weaker, as seen in ICICI Prudential (-0.0160 RIR) and Aditya Birla Sun Life (-0.0383 RIR),

suggesting that not all small-cap funds were able to maintain their prior superior performance.

6. Conclusion

In this study, we have examined a comparative analysis between the chosen open-ended large-cap and small-cap equity fund schemes in India through different phases such as the pre-Covid, Covid and post-Covid period. We employed different risk- adjusted techniques such as Sharpe, Treynor and M squared ratios to determine the performance of different schemes considering risk. In addition to it, Sortino ratio is used for measuring downside risk; Jensen alpha and Risk Information ratio measures are also used for checking stocks selectivity skill and persistence of the fund managers performance respectively. On the basis of analysis, results indicates that large-cap funds surpassed small-cap funds based on risk-adjusted returns during pre-Covid phase. In contrast, results exhibit that small-cap schemes performed exceptionally well and outperformed large-cap funds, although they remain volatile throughout the Covid and post-Covid phases. Further, the analysis reveals that managers of small cap funds showed more persistent and better stock selectivity skills than the managers of large cap funds across all the periods, particularly during the Covid phase. Moreover, it is also observed that some of the chosen funds have been performed consistently well under all the performance measures across all the phases. However, returns back normal returns in post-Covid period. Therefore, skills and persistency of fund managers are playing a crucial role to generate excess returns for the investors in long term.

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