

**SELECTION OF INDIAN MUTUAL FUND
SCHEMES
BASED UPON VALUATION OF A PORTFOLIO
WITH RESPECT TO ITS MAJOR STOCK
HOLDINGS**

A Thesis submitted to Gujarat Technological University

for the Award of

**Doctor of Philosophy
in
Management**

by

**Gohil Karan Rajeshbhai
Enrollment No: 209999903022**

Under supervision of

Dr. Jagrutkumar K. Vasavada



**GUJARAT TECHNOLOGICAL UNIVERSITY
AHMEDABAD
[August – 2026]**

@ Gohil Karan Rajeshbhai

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AHMEDABAD
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Abstract

The Indian mutual fund industry has undergone a remarkable transformation in the post-pandemic period, with Assets Under Management (AUM) rising from nearly ₹28 lakh crore in January 2020 to around ₹81 lakh crore by November 2025. Despite this extraordinary growth, retail investors continue to face a persistent challenge in selecting mutual fund schemes capable of generating sustainable long-term wealth. Traditional selection approaches based primarily on past returns, star ratings, or prevailing market trends have often proved inadequate, leading many investors to underperform benchmark indices and make emotionally driven investment decisions.

This study emerged from a simple yet significant observation: when an investor invests in a mutual fund, the investment ultimately represents ownership in the underlying portfolio of companies. Therefore, the valuation of that portfolio, reflected through the Price-to-Earnings (PE) ratio of its major stock holdings, should play an important role in fund selection. However, despite its practical relevance, portfolio valuation has remained largely neglected in conventional mutual fund evaluation frameworks. Against this background, the present research seeks to examine whether portfolio valuation can serve as a meaningful and reliable criterion for distinguishing superior mutual fund schemes from inferior ones.

The study adopts a quantitative, ex-post facto, and longitudinal research design covering the period from 2021 to 2025. A purposive sample of twenty actively managed equity mutual fund schemes—comprising ten large cap and ten mid cap funds—was selected on the basis of the highest Assets Under Management as of 1st December 2020. The analysis moves progressively from basic return evaluation to advanced risk-adjusted performance measures, including the Sharpe Ratio, Treynor Ratio, Jensen's Alpha, and Fama's Net Selectivity Measure. Further, the schemes were categorised annually into low, moderate, and high valuation groups based on the PE ranks of their top ten stock holdings, and the comparative performance of these valuation categories was examined over the five-year period.

The findings present a compelling and nuanced understanding of the relationship between portfolio valuation and mutual fund performance. In the large cap segment, a clear and consistent trend was observed: funds belonging to the low PE category

generated the highest annualised returns as well as the strongest risk-adjusted performance across all four performance measures. These funds outperformed both moderate and high PE categories in almost every year of the study. During the difficult market conditions of 2022, low PE large cap funds remained the only category to produce positive and relatively stable returns of 5.69%, whereas high PE funds recorded a negative return of -0.32%. Over the entire five-year period, low PE large cap funds delivered an average annual return of 18.61%, compared to 15.10% for high PE funds. These findings indicate that valuation discipline, particularly investment in reasonably valued or undervalued companies, contributes significantly to superior performance in the relatively mature and efficient large cap segment.

In the mid cap category, however, the relationship between valuation and performance followed a different pattern. The moderate PE category emerged as the best-performing group, generating the highest average annual return of 28.09% over the study period, compared to 22.94% for low PE funds and 22.67% for high PE funds. Similarly, the Sharpe Ratio for moderate PE mid cap funds stood at 1.60, substantially exceeding both low and high PE categories. This inverted-V relationship suggests that, within the mid cap segment, neither extremely low-valued portfolios nor excessively expensive portfolios produced optimal outcomes. Instead, funds maintaining balanced and moderate valuations avoiding both value traps and overvalued growth stocks offered the most favourable risk-return combination.

One of the most consistent findings across both segments was the persistent underperformance of high PE funds. Schemes maintaining highly expensive portfolios, characterised by elevated PE ratios among their major holdings, consistently generated weaker returns and poorer risk-adjusted performance. Funds such as Axis Mutual Fund's large cap and mid cap schemes, which carried some of the highest portfolio PE ratios within their respective categories, repeatedly ranked among the weakest performers across Sharpe Ratio, Treynor Ratio, Jensen's Alpha, and Fama's Net Selectivity rankings. This finding challenges the "growth at any price" philosophy and highlights the continuing importance of valuation discipline, even during bullish market conditions.

For retail investors, the study offers a practical and empirically grounded framework for mutual fund selection. The findings do not suggest that valuation alone guarantees

superior performance, as managerial skill remains equally important. Rather, the results indicate that portfolio valuation should function as an important screening criterion when selecting mutual fund schemes, particularly when combined with measures of stock-selection ability such as Jensen's Alpha and Fama's Net Selectivity. The study suggests that a value-oriented strategy is more suitable for large cap investing, whereas a balanced and moderate valuation approach appears more effective within the mid cap segment.

The research contributes to the existing body of literature in three important ways. First, it extends the evaluation of Indian mutual funds beyond traditional risk-adjusted performance measures by incorporating portfolio valuation as a distinct and meaningful selection criterion. Second, it provides comparative evidence between large cap and mid cap schemes, demonstrating that the optimal valuation range differs across market capitalisation segments. Third, it offers retail investors a transparent, systematic, and empirically validated framework for mutual fund selection, thereby addressing persistent issues such as information asymmetry, return chasing, and emotionally driven investment behaviour in the Indian mutual fund market.

Chapter 1: Introduction

1.1 Introduction of Mutual Fund

A mutual fund is a financial intermediary that collects savings from a large number of investors and invests this pooled money in a diversified portfolio of financial instruments such as equity shares, bonds, debentures, and money market securities. Each investor is allotted units in proportion to the amount invested, and these units represent ownership in the overall portfolio of the fund. The value of each unit is known as the Net Asset Value (NAV), which is calculated daily based on the market value of the underlying assets after adjusting for liabilities and expenses.

Mutual funds are managed by professional fund managers who make investment decisions after conducting detailed research and analysis of market conditions, company fundamentals, and economic trends. Investors benefit from both capital appreciation and periodic income, depending on the type of scheme. Since mutual funds operate on the principle of diversification, they reduce the risk associated with investing in a single security. Overall, mutual funds provide a convenient and efficient avenue for small investors to participate in capital markets without requiring extensive knowledge or large capital.

The mutual fund industry in India has evolved gradually through distinct phases, reflecting changes in regulation, market structure, and investor participation. The first phase (1964–1987) marked the foundation of the industry with the establishment of the Unit Trust of India (UTI) in 1963 by the Government of India and the Reserve Bank of India. UTI launched its flagship scheme, Unit Scheme 1964, which remained highly popular among investors. During this period, UTI enjoyed a complete monopoly in the mutual fund sector, and the focus was primarily on mobilizing household savings. By the end of this phase, UTI had accumulated assets of approximately ₹6,700 crore, indicating growing investor trust.

The second phase (1987–1993) witnessed the entry of public sector institutions such as State Bank of India, Life Insurance Corporation (LIC), and General Insurance Corporation (GIC). SBI Mutual Fund became the first non-UTI mutual fund in 1987, followed by several others. This expansion increased competition and broadened the investor base. By 1993, the total assets under management (AUM) of the industry had

grown significantly to about ₹47,000 crore, reflecting increasing acceptance of mutual funds as an investment option.

The third phase (1993–2003) was characterized by liberalization and the introduction of regulatory frameworks. The entry of private and foreign players enhanced competition and efficiency in the industry. The Securities and Exchange Board of India (SEBI) introduced mutual fund regulations in 1993, which were further strengthened in 1996. These regulations brought transparency, standardization, and investor protection to the industry. The presence of global players and professional fund management practices significantly improved the quality of services offered.

The fourth phase (2003-2014) represents the stage of consolidation and rapid growth. The restructuring of UTI in 2003 marked a turning point, bringing all mutual funds under SEBI regulation. Since then, the industry has witnessed remarkable expansion in terms of AUM, number of schemes, and investor participation. The growth of Systematic Investment Plans (SIPs), digital investment platforms, and increased financial awareness have played a crucial role in this expansion.

The fifth phase (Since 2014), the mutual fund industry in India has entered a phase of rapid expansion driven by financial inclusion, digitalization, and regulatory support. Assets under management increased from approximately ₹10–12 lakh crore in 2014–15 to over ₹50–80 lakh crore in recent years, reflecting exponential growth. Investor participation has also increased significantly, with mutual fund folios crossing 15–26 crore. The popularity of Systematic Investment Plans (SIPs) has encouraged disciplined investing, while digital platforms have made investment processes more accessible and convenient. Regulatory initiatives such as direct plans, scheme categorization, and expense rationalization have further strengthened the industry. This phase reflects a clear shift in investor behaviour, with individuals increasingly embracing market-linked investments.

The COVID-19 pandemic marked a major turning point for the Indian mutual fund industry, leading to a phase of extraordinary retail-driven growth that significantly transformed the country's investment landscape. Although the pandemic initially created economic uncertainty and financial stress, it also accelerated a structural change in household investment behaviour. During this period, investors increasingly shifted their focus from traditional savings instruments toward market-linked financial

products in search of higher returns and long-term wealth creation. Simultaneously, rapid growth in digital infrastructure and online investment platforms enabled easier access to mutual fund products, particularly for investors residing beyond the major metropolitan cities.

The scale of post-pandemic growth in the mutual fund industry has been remarkable. In January 2020, just before the outbreak of COVID-19, the average assets under management (AAUM) of the Indian mutual fund industry stood at approximately ₹28.18 lakh crore. Over the next five years, the industry witnessed unprecedented expansion, and by November 2025, the total AUM had reached a record level of nearly ₹81 lakh crore. During this period, the industry crossed several important milestones, including ₹70 lakh crore and ₹75 lakh crore in total AUM. The growth was largely supported by strong participation from retail investors, whose confidence remained resilient despite market volatility. A significant indicator of this trust was the continuation of positive equity inflows for 57 consecutive months from March 2021 onward.

One of the most important drivers of this growth has been the increasing popularity of Systematic Investment Plans (SIPs). SIPs emerged as the preferred mode of investment for retail investors because they offered discipline, affordability, and the advantage of long-term wealth accumulation through regular contributions. Monthly SIP inflows reached an all-time high of more than ₹31,000 crore, while the total AUM managed through SIPs increased to ₹16.53 lakh crore, accounting for more than one-fifth of the industry's total AUM. In the calendar year 2025 alone, SIP inflows crossed the ₹3 trillion mark for the first time, highlighting the growing acceptance of mutual funds among households across the country.

Another significant development during the post-COVID period was the rapid rise of investments from B30 cities, which refer to locations beyond the top 30 metropolitan centres. Traditionally, mutual fund investments in India were concentrated in major urban centres such as Mumbai, Delhi, Bengaluru, and Chennai. However, increasing financial awareness, digital penetration, and easier access to online investment platforms encouraged participation from smaller towns and semi-urban areas. By June 2025, B30 cities accounted for approximately 18.5 percent of the industry's total AUM, amounting to nearly ₹14 lakh crore. Over the previous five years, the assets from these

cities grew at a compound annual growth rate (CAGR) of 28 percent, surpassing the growth rate of investments from top-30 (T30) cities. States such as Uttar Pradesh, Rajasthan, and Madhya Pradesh emerged as important contributors to this growth, reflecting the widening geographical reach of the mutual fund industry.

The post-pandemic period also witnessed a gradual but important shift toward passive investing. Investors increasingly showed interest in low-cost and transparent investment products such as Exchange Traded Funds (ETFs) and index funds. Between September 2021 and September 2025, the AUM of ETFs and index funds recorded annual growth rates of 28 percent and 81 percent, respectively. Consequently, the share of passive funds in the industry's quarterly average AUM increased from 7 percent in FY20 to 17.1 percent by September 2025. The financial year 2024–25 particularly stood out as a breakthrough year for passive investing, as net inflows into such schemes more than doubled compared to the previous year. This trend reflects a maturing investor base that is becoming more aware of cost efficiency, diversification, and long-term investment strategies.

Investor preferences also evolved considerably during this phase. While thematic and sectoral funds attracted substantial attention during 2024 due to market optimism in specific industries, investors in 2025 gradually shifted toward diversified categories such as flexi-cap, mid-cap, and small-cap funds. This transition indicated a stronger preference for balanced and long-term investment approaches rather than short-term speculative opportunities. The growing attractiveness of the mutual fund sector also encouraged the entry of new asset management companies (AMCs), including emerging players such as Jio BlackRock, The Wealth Company, and Angel One. These institutions successfully mobilized significant capital through New Fund Offers (NFOs). In 2025, total NFO collections reached ₹63,631 crore, of which equity-oriented funds contributed nearly 61 percent, demonstrating continued investor enthusiasm for equity investments.

Despite this strong growth trajectory, the industry also faced certain challenges. One major concern was the rising number of SIP stoppages, where closures of SIP accounts offset a portion of the newly registered accounts. As a result, the number of active SIP accounts declined from around 103 million in the previous year to nearly 100 million by November 2025. Nevertheless, the overall value of SIP contributions continued to

rise steadily, suggesting that investors remained committed to long-term investing despite temporary discontinuations by some participants.

The regulatory framework governing the mutual fund industry also underwent important changes in response to the sector's rapid expansion. The Securities and Exchange Board of India (SEBI) introduced the SEBI (Mutual Funds) Regulations, 2026, replacing the earlier 1996 regulations. The revised framework focused on improving transparency, reducing investment costs, and strengthening investor protection. Key reforms included modifications in the Base Expense Ratio (BER) structure and reductions in brokerage caps, both of which were aimed at enhancing operational efficiency and ensuring greater benefits for investors.

Overall, the post-COVID transformation has placed the Indian mutual fund industry on a strong and sustainable growth path. Although the pace of AUM expansion moderated slightly to 21 percent in 2025 compared to the exceptional 31 percent growth recorded in 2024, the industry continues to demonstrate robust momentum. The consistent growth in SIP contributions, increasing participation from smaller cities, and rising financial awareness among households indicate that the expansion of the mutual fund industry represents a long-term structural shift rather than a temporary phenomenon. As digital access and financial literacy continue to improve across the country, the mutual fund industry is expected to play an increasingly important role in channeling household savings into the formal financial system and supporting long-term wealth creation for millions of Indian investors.

1.2 Mechanism of a Mutual Fund in India

A mutual fund in India is organized as a trust under the provisions of the SEBI (Mutual Fund) Regulations, 1996. This structure ensures transparency, accountability, and protection of investor interests through a clear division of roles among different entities.

The sponsor acts as the promoter of the mutual fund and is responsible for establishing it. The sponsor must have a sound financial track record and credibility, as it plays a key role in setting up the fund. Once the fund is established, the Board of Trustees is appointed to safeguard the interests of investors. The trustees hold the assets of the fund in trust and ensure that all operations are carried out in accordance with SEBI regulations. A significant proportion of the trustees must be independent, which helps in maintaining objectivity and protecting investors' rights.

The Asset Management Company (AMC) is the operational arm of the mutual fund and is responsible for managing the pooled funds. It takes day-to-day investment decisions, formulates strategies, and executes transactions in the market. The AMC employs professional fund managers, analysts, and research teams who work together to optimize returns while managing risk. The AMC charges a fee, known as the expense ratio, for its services.

The custodian is an independent entity responsible for safeguarding the securities and maintaining records of the fund's assets. It ensures that the securities are held securely in electronic or physical form and that all transactions are properly recorded. This separation of responsibilities among the sponsor, trustees, AMC, and custodian ensures a system of checks and balances, thereby enhancing investor confidence and transparency.

1.3 Types of Mutual Funds in India

The classification of mutual funds in India is primarily guided by the framework introduced by the Securities and Exchange Board of India (SEBI) in 2017. This landmark regulatory intervention aimed to eliminate ambiguity and overlap among schemes. It ensures uniformity, transparency, and ease of understanding for investors. Mutual funds can be broadly categorized based on investment objective, structure, risk profile, and asset class. Each category serves a distinct purpose in an investor's portfolio.

1.3.1 Based on Asset Class

The asset class determines the primary nature of securities a fund invests in. This is the most fundamental classification.

(a) Equity Mutual Funds

Equity mutual funds invest primarily in the shares of companies. Their core objective is capital appreciation over the long term. These funds carry higher risk compared to debt funds. However, they also offer the potential for higher returns. Academic literature identifies equity funds as vehicles for wealth creation. They are suitable for investors with a long-term horizon and significant risk tolerance. SEBI has defined specific sub-categories within equity funds to bring clarity.

- **Large Cap Funds:** These funds must invest at least 80% of their assets in the top 100 companies by full market capitalisation. These companies are typically industry leaders. They have established business models and stable earnings. Large cap funds are relatively less volatile. They form the core equity holding for conservative equity investors.
- **Mid Cap Funds:** These funds invest at least 65% of their assets in companies ranked from 101st to 250th by market capitalisation. Mid cap companies are often in their growth phase. They offer higher growth potential than large caps. However, this comes with increased volatility. These companies are more sensitive to economic cycles.
- **Small Cap Funds:** These funds invest a minimum of 65% in companies ranked beyond the top 250. Small cap companies are young and often operate in niche markets. They carry very high risk. Yet, they can deliver exceptional returns if

selected wisely. Liquidity can be a concern in this segment. This was the focus of the current study's dataset.

- **Multi Cap Funds:** SEBI mandates a specific allocation structure for these funds. They must invest at least 25% in large cap, 25% in mid cap, and 25% in small cap stocks. The remaining 25% offers flexibility. This structure forces genuine diversification across the market spectrum.
- **Flexi Cap Funds:** These funds provide the fund manager with complete flexibility. They can invest any proportion across large, mid, and small cap stocks. There are no mandatory minimum allocation rules. This allows managers to shift based on market conditions. It represents an active, unconstrained strategy.
- **ELSS (Equity Linked Savings Scheme):** These are tax-saving equity funds. They offer tax benefits under Section 80C of the Income Tax Act, 1961. An investor can claim a deduction of up to ₹1,50,000. They come with a mandatory lock-in period of three years. This lock-in is the shortest among all Section 80C tax-saving options.
- **Sectoral/Thematic Funds:** Sectoral funds restrict investment to a specific industry like banking, pharmaceuticals, or technology. Thematic funds follow a broader theme. Examples include ESG (Environmental, Social, Governance), infrastructure, or consumption. These funds carry concentration risk. The lack of diversification can lead to severe underperformance if the specific sector or theme falls out of favour.

(b) Debt Mutual Funds

Debt funds invest in fixed-income instruments. These include government securities, corporate bonds, treasury bills, and money market instruments. Their primary objective is income generation with capital preservation. They are considerably less volatile than equity funds. Academically, they are tools for matching short-to-medium term liabilities and portfolio de-risking.

- **Liquid Funds:** These funds invest in debt and money market securities with a maturity of up to 91 days. They are the lowest-risk category within debt funds. They offer high liquidity and are often used by institutions to park surplus cash.

- **Ultra Short Duration Funds:** The portfolio duration of these funds is between three and six months. They carry slightly higher interest rate risk than liquid funds. They aim to deliver marginally better returns.
- **Short Duration Funds:** These funds maintain a portfolio duration of one to three years. They are suitable for investors with an investment horizon aligned to this maturity. They are a common choice for conservative retail investors.
- **Corporate Bond Funds:** These funds must invest at least 80% of their assets in the highest-rated corporate bonds (AA+ and above). They carry credit risk from the issuing companies but are generally of high quality.
- **Gilt Funds:** These funds invest exclusively in government securities. They carry virtually no credit risk, as the sovereign backs them. However, they are highly sensitive to changes in interest rates. Their NAVs can fluctuate significantly with macroeconomic policy shifts.
- **Credit Risk Funds:** These funds invest at least 65% of assets in bonds rated AA or below. They seek higher returns by taking on lower-rated debt. This exposes investors to significant default risk.

(c) Hybrid Mutual Funds

Hybrid funds invest in a blend of equity and debt. The goal is to balance the growth potential of stocks with the stability of bonds. They offer inbuilt asset allocation within a single product.

- **Aggressive Hybrid Funds:** These funds allocate 65% to 80% of their assets to equity, with the remainder in debt. They are equity-oriented. Their tax treatment is similar to that of equity funds.
- **Conservative Hybrid Funds:** These funds take the opposite approach. They invest 75% to 90% in debt instruments and only 10% to 25% in equity. The equity portion serves to add a small kicker to returns.
- **Balanced Advantage Funds:** Also known as dynamic asset allocation funds. They actively shift their equity and debt mix based on valuation models and market trends. There are no static allocation limits. The manager has full discretion.

- **Arbitrage Funds:** These funds generate returns by exploiting price differences between the cash and derivatives markets. They invest a minimum of 65% in equities but hedge every position. They are low-risk and enjoy equity taxation.

1.3.2 Based on Investment Structure

The structure defines the terms of entry and exits for investors.

(a) Open-Ended Funds

Open-ended funds allow investors to buy and sell units at any time. Transactions occur at the prevailing Net Asset Value (NAV). The capital of the fund is unlimited. There is no fixed maturity date. These funds offer the highest liquidity and flexibility. They constitute the vast majority of schemes in India.

(b) Close-Ended Funds

Close-ended funds have a fixed maturity period. Investors can only subscribe during the New Fund Offer (NFO) period. After the NFO closes, the units are typically listed on a stock exchange. Liquidity is limited to what the secondary market offers. Units often trade at a discount to their NAV.

(c) Interval Funds

Interval funds combine features of both previous structures. They remain close-ended for most of the year. They open for redemption and purchase only during specific predetermined intervals. This provides a window of liquidity within a broadly closed structure.

1.3.3 Based on Investment Objective

This classification looks at the fund's stated goal for the end investor.

(a) Growth Funds

The primary aim is long-term capital appreciation. Profits generated by the underlying securities are reinvested. This compounds the capital. Distributions are rare. These are ideal for investors in their wealth accumulation phase.

(b) Income Funds

The primary aim is to provide a regular stream of income. These funds focus on distributing dividends and interest income. They invest heavily in debt and dividend-yielding equities. They are suitable for retirees or those needing periodic cash flow.

(c) Balanced Funds

These funds pursue a dual objective. They seek to provide both modest current income and long-term capital growth. Their portfolio structure is pre-defined to maintain this balance.

1.3.4 Based on Risk and Investment Strategy

This classification separates passive management from active stock-picking.

(a) Index Funds

Index funds follow a passive investment strategy. They replicate the composition of a target market index, such as the Nifty 50 or the BSE Sensex. They do not seek to outperform the index. Their goal is to mirror it. This results in significantly lower expense ratios due to the absence of intensive research and active trading.

(b) Exchange-Traded Funds (ETFs)

ETFs are also passively managed. The crucial difference is that they are listed and traded on stock exchanges like individual shares. Their price fluctuates throughout the trading day based on demand and supply. They combine the diversification of a fund with the trading flexibility of a stock.

(c) Fund of Funds (FoFs)

FoFs do not invest directly in stocks or bonds. Instead, they invest in a portfolio of other mutual funds. They provide diversification across different fund management styles and strategies. However, they carry an additional layer of expenses that can impact net returns.

1.3.5 Solution-Oriented Schemes

These are goal-based funds with built-in discipline mechanisms.

- Retirement Funds: These are long-term funds with a lock-in period extending

until retirement age or a minimum of five years. They typically adopt a life-cycle strategy, moving from equity-heavy to debt-heavy allocation as the target date approaches.

- **Children's Funds:** These are designed to accumulate wealth for a child's future education or marriage expenses. They come with a lock-in for five years or until the child attains majority. The name of the child is registered with the investment.

1.3.6 Other Categories

(a) Tax-Saving Funds (ELSS)

As noted, these are diversified equity funds. Their unique feature is the tax benefit under Section 80C. The ₹1.50 lakh investment limit is applicable to the overall Section 80C basket. The three-year lock-in period also serves to instill a degree of investment discipline.

(b) International Funds

These funds invest in securities listed outside India. Some invest directly in foreign stocks. Others invest in units of international mutual funds. They offer geographical diversification. This helps an investor mitigate the risk of a purely domestic portfolio. They also provide exposure to global themes and companies not available in India.

1.4 Advantages of Mutual Fund for investors

1. Professional Management

Mutual funds are managed by trained professionals who have experience, research support, and access to market data. For a common investor, it is not easy to track markets daily or analyse companies in depth. A fund manager does this work on behalf of investors. This gives confidence, especially to those who are new to investing.

2. Diversification of Risk

Instead of investing in one or two securities, a mutual fund spreads money across many assets. This reduces the impact of loss from any single investment. For example, if one stock performs poorly, others may balance the loss. This makes mutual funds comparatively safer than direct stock investment.

3. Affordability and Accessibility

Mutual funds allow investors to start with a small amount, even ₹500 through SIP. This makes investing accessible to students, salaried individuals, and small investors. It removes the barrier of needing large capital to participate in the market.

4. Liquidity

Most open-ended mutual funds provide easy entry and exit. Investors can redeem their units on any business day at the prevailing NAV. This flexibility is helpful in case of financial needs or emergencies.

5. Convenience and Ease of Use

Mutual funds handle all operational work such as record keeping, dividend distribution, and portfolio management. Investors do not need to worry about paperwork or tracking each investment. With digital platforms, investing has become even more simple and user-friendly.

6. Transparency

Mutual funds regularly disclose their NAV, portfolio holdings, and performance reports. This helps investors understand where their money is invested. It builds trust and allows better decision-making.

7. Potential for Better Returns

Over the long term, mutual funds, especially equity funds, have the potential to

generate good returns. Since they invest in a diversified portfolio and are actively managed, they may perform better than traditional savings options.

1.5 Disadvantages of Mutual Fund for Investors

1. No Direct Control Over Investment

When you invest in a mutual fund, you cannot decide which stocks or bonds to buy or sell. All decisions are taken by the fund manager. Some investors may feel uncomfortable not having direct control over their money.

2. Dependence on Fund Manager's Skill

The performance of the fund depends on the decisions of the fund manager. If the manager makes poor choices or frequently changes strategy, returns may be affected. This creates uncertainty for investors.

3. Expenses and Fees

Mutual funds charge an expense ratio, which includes management fees and operational costs. Even though these charges may seem small, they reduce the final return over time, especially in long-term investments.

4. Market Risk

Mutual funds are not risk-free. Equity funds are affected by stock market fluctuations, while debt funds are exposed to interest rate and credit risks. During market downturns, the value of investment can decrease, which may worry investors.

5. Lock-in Period in Some Schemes

Certain schemes like ELSS (tax-saving funds) have a lock-in period of three years. During this time, investors cannot withdraw their money even if they need it urgently. This reduces flexibility.

6. Over-diversification

While diversification reduces risk, too much diversification can limit returns. If a fund invests in too many securities, the gains from high-performing stocks may get diluted.

7. Misleading Expectations

Sometimes investors expect guaranteed returns from mutual funds. However, returns depend on market conditions. Lack of proper understanding may lead to disappointment if returns are lower than expected.

1.6 NAV Calculation

The Net Asset Value, or NAV, is the price of one unit of a mutual fund. It tells an investor what each unit is worth on a given day. All mutual fund transactions are based on the NAV. When an investor buys units, she pays the NAV. When she sells, she receives the NAV.

In simple terms, NAV is the total value of everything the fund owns minus everything the fund owes, divided by the number of units in existence.

The formula for NAV is a very clean one:

$$\text{NAV} = \frac{\text{Total Assets} - \text{Total Liabilities}}{\text{Total Number of Outstanding Units}}$$

This formula is applied per scheme. Each mutual fund scheme has its own NAV.

SEBI rules require that NAV be calculated and published every business day.

Breaking Down Total Assets

The total assets of a scheme include all its investments and cash holdings. The key components are:

- **Market Value of Securities Held:** This is the largest part. The fund holds stocks, bonds, or money market instruments. Their value is taken at the closing market price of the valuation day. For equity shares, this is the last traded price on the stock exchange. For debt securities, it is their current market value based on prevailing interest rates.
- **Accrued Income:** This includes dividends declared but not yet received, and interest that has been earned on bonds or bank deposits up to that date. Even if the cash is not in hand, the right to receive it counts as an asset.
- **Cash and Cash Equivalents:** This is the liquid money lying in the fund's bank accounts. It also includes money received from the sale of securities that has not yet been reinvested.
- **Other Receivables:** Any money legally owed to the fund, such as pending subscription amounts from investors who bought units, is also added.

All these items together give the Gross Assets of the scheme.

Breaking Down Total Liabilities

The liabilities are all outflows the fund must make. They reduce the value available to unit holders. Typical liabilities include:

- **Accrued Expenses:** These are the ongoing fees and costs that have been incurred but not yet paid. They include the Asset Management Company (AMC) fees, custodian charges, trustee fees, audit fees, and legal charges.
- **Management Fee Provision:** The AMC charges a daily fee based on the scheme's assets. The liability for the fee due but unpaid is deducted.
- **Pending Payments:** This includes money owed to investors who have redeemed their units, and payments pending for securities the fund has bought.
- **Other Liabilities:** Any other obligation, like a payout to the government or a settlement guarantee, falls here.

All liabilities are subtracted from the total assets to arrive at the Net Assets.

Frequency of Calculation

In India, all open-ended schemes must calculate their NAV at the close of every business day. This ensures fairness. Any investor who enters or exits the scheme on that day receives the same day's NAV, provided the transaction is accepted before the cut-off time. The cut-off time is typically 3:00 PM for equity schemes.

Close-ended schemes published their NAV daily when listed on stock exchanges. The daily announcement of NAV is a key transparency requirement under SEBI regulations.

A Simple Numerical Example

Imagine a new mutual fund scheme called "ABC Mid Cap Fund." It launches with the following details:

- Total amount collected from investors: ₹ 50,00,000
- Number of units issued: 5,00,000 units at a face value of ₹ 10 each.

At the start, the NAV is:

$$\text{NAV} = \frac{\text{₹ } 50,00,000 - \text{₹ } 0}{5,00,000} = \text{₹ } 10.00$$

Now, after one month, the fund's position is as follows:

- Market value of all stocks bought: ₹ 54,00,000
- Accrued dividends on these stocks: ₹ 10,000
- Cash held in bank: ₹ 1,50,000
- Total Assets = ₹ 54,00,000 + ₹ 10,000 + ₹ 1,50,000 = ₹ 55,60,000

The fund owes the following:

- AMC management fee payable: ₹ 32,000
- Other operating expenses payable: ₹ 8,000
- Total Liabilities = ₹ 40,000

The number of outstanding units remains 5,00,000. The NAV is:

$$\text{NAV} = \frac{\text{₹ } 55,60,000 - \text{₹ } 40,000}{5,00,000} = \frac{\text{₹ } 55,20,000}{5,00,000} = \text{₹ } 11.04$$

The NAV has moved from ₹ 10.00 to ₹ 11.04. This represents a gain of 10.4% for an investor who invested at the time of launch.

How Expenses Affect NAV

Every single expense, no matter how small, reduces the NAV. The management fee (called the Total Expense Ratio or TER) is deducted daily. This is why the NAV of a fund with a high expense ratio will grow slightly slower than a similar fund with a low expense ratio, even if both hold the same stocks. SEBI sets strict limits on how much a fund can charge, and the TER is disclosed to all investors.

Accounting Standards and Fair Valuation

SEBI mandates that securities be valued at their fair market value. For equity shares, this is straightforward. For thinly traded bonds or unlisted securities, the fund must

use fair value estimates determined by valuation agencies. The idea is that NAV must always reflect the true, realisable value of the assets.

1.7 Regulatory Body: AMFI

The establishment of the Association of Mutual Funds in India in 1995 must be understood within the broader context of India's economic liberalization. The early 1990s marked a structural shift from a controlled economy to a market-oriented system. However, despite policy reforms, the financial literacy level among common investors remained low.

Prior to liberalization, the mutual fund industry was dominated by the Unit Trust of India, which enjoyed a monopoly and strong public trust due to government backing. The entry of private and foreign mutual funds after 1993 created opportunities but also uncertainty. Investors lacked awareness and often perceived mutual funds as risky or speculative instruments. This resulted in a trust deficit, limiting participation in capital markets.

In this environment, AMFI was established on 22 August 1995 as a non-profit, self-regulatory organization, with the guidance of the Securities and Exchange Board of India (SEBI). Its formation represented a collective commitment by asset management companies to promote ethical conduct, transparency, and investor protection. Over time, AMFI has played a crucial role in transforming investor perception, contributing to the growth of the mutual fund industry from a relatively small base in the 1990s to over ₹50 lakh crore in Assets Under Management (AUM) in recent years.

This transformation reflects a broader shift in India's financial behavior—from a traditional savings-oriented approach to a more investment-driven mindset. AMFI's role in building long-term trust and awareness has been central to this evolution.

The core mission of the Association of Mutual Funds in India is to ensure the development of the mutual fund industry on professional, ethical, and transparent lines. This mission can be analytically understood through multiple functional dimensions that collectively strengthen market integrity and investor confidence.

AMFI plays a crucial role in ethical standardization by establishing a comprehensive Code of Conduct applicable to all member Asset Management Companies (currently

over 40 SEBI-registered AMCs), as well as intermediaries such as distributors and advisors. This framework clearly defines acceptable practices in fund management, marketing, and advisory services. From an academic perspective, this function helps in reducing information asymmetry and agency problems between investors and fund managers. By promoting fair disclosure, transparency, and preventing mis-selling practices, AMFI contributes significantly to enhancing investor confidence and maintaining the integrity of the financial system.

In addition to ethical oversight, AMFI acts as an important intermediary in institutional coordination and policy interface. It connects the mutual fund industry with key regulatory and policy-making bodies such as the Reserve Bank of India and the Ministry of Finance, while working under the broader regulatory framework of Securities and Exchange Board of India (SEBI). AMFI provides industry feedback, participates in policy discussions, and supports regulatory reforms. This collaborative approach ensures that policies are practical, implementable, and aligned with investor interests. It also helps in developing an investor-centric regulatory framework that balances growth with risk management.

Another important dimension of AMFI's role is operational standardization and transparency. It ensures uniformity in practices related to valuation, reporting, and disclosure across the industry. For instance, daily Net Asset Values (NAVs) and portfolio disclosures are made available in a standardized format, enabling investors to compare schemes easily and make informed decisions. AMFI also operates through specialized committees focusing on areas such as valuation norms, financial literacy, and risk management, thereby improving overall institutional efficiency and governance within the industry.

Beyond regulatory and operational roles, AMFI has made a significant contribution to investor awareness and market development. One of its most impactful initiatives is the "Mutual Funds Sahi Hai" campaign launched in 2017. This campaign simplified the concept of mutual fund investing and communicated it in a relatable manner to a wide audience, including small investors, rural households, and young professionals. As a result of such initiatives, the industry witnessed a sharp rise in retail participation. The number of investor folios increased from around 5 crore in 2017 to over 15 crore in recent years, while monthly Systematic Investment Plan (SIP) inflows crossed

₹15,000–₹20,000 crore. These figures highlight how effective awareness programs can influence financial behaviour and promote inclusive participation in capital markets.

Furthermore, AMFI has strengthened investor protection through the introduction of the AMFI Registration Number (ARN) system, which regulates intermediaries involved in mutual fund distribution. Under this system, all distributors and advisors are required to obtain certification from the National Institute of Securities Markets (NISM), ensuring that they possess adequate knowledge of financial products and regulatory requirements. The ARN certification must be renewed periodically, thereby maintaining continuous professional standards. From an investor protection perspective, this system reduces the risk of mis-selling, enhances the credibility of financial advice, and introduces accountability within the distribution network.

Overall, AMFI's multidimensional role—ranging from ethical governance and policy coordination to operational standardization and investor education—has been instrumental in building a transparent, efficient, and investor-friendly mutual fund industry in India.

1.8 Major Players in India

The Indian mutual fund industry includes a mix of old and new players, each with its own strengths. Some fund houses are known for trust and legacy, while others are known for innovation and growth. Together, they contribute to the development of the financial market and provide investors with a wide range of investment opportunities. For investors, selecting a mutual fund should depend on their financial goals, risk tolerance, and investment horizon. Understanding the background and strengths of different fund houses can help in making better investment decisions.

1. SBI Mutual Fund

SBI Mutual Fund holds the title of India's largest asset manager by a comfortable margin. It was launched in June 1987 as the country's first non-UTI mutual fund, a joint venture between the State Bank of India and France's Amundi Asset Management. Its very first scheme, SBI Magnum Regular Income Scheme, debuted on 1 January 1988. By December 2025 the fund house had grown its average quarterly assets to approximately ₹12.49 lakh crore, adding ₹1.35 lakh crore during the calendar year

alone. It also leads the industry in regular-plan AUM with ₹5.21 lakh crore. With 125 schemes and a nationwide presence, SBI Mutual Fund carries the trust that comes with the State Bank name, yet it has never stopped innovating — it was the first to launch a ‘Contra’ fund in India, and in 2013 it acquired Daiwa Mutual Fund’s India business.

2. ICICI Prudential Mutual Fund

Few fund houses have grown as methodically as ICICI Prudential Mutual Fund. Established in 1993 as a venture between ICICI Bank and the UK’s Prudential plc, the AMC took a significant turn in 1997 when Prudential replaced JP Morgan as the foreign partner. Three decades later, the fund house is right at the top. In September 2025 it became only the second AMC in India to cross the ₹10 lakh crore AUM milestone. By year-end, its average quarterly AUM had comfortably passed that mark. It leads the industry in regular-plan AUM (₹5.22 lakh crore) and also holds the largest cash allocation of any fund house — ₹32,823 crore in October 2025. The AMC’s growth has been powered by a steady inflow from retail investors, making it a household name across India.

3. HDFC Mutual Fund

HDFC Mutual Fund entered the industry relatively late — December 1999, as a joint venture between Housing Development Finance Corporation and Standard Life Investments of the UK. Despite starting later than its rivals, it rapidly climbed the rankings. By December 2025 its total AUM stood at ₹8.56 lakh crore, and its regular-plan AUM crossed the ₹5 lakh crore threshold. What truly defines HDFC Mutual Fund is its extraordinary retail franchise: nearly 70% of its total assets come from individual investors — an industry-leading ₹5.96 lakh crore. This loyalty has been earned through decades of disciplined investing and a culture of long-term wealth creation that has served ordinary savers well.

4. Nippon India Mutual Fund

The story of Nippon India Mutual Fund is among the most dramatic in Indian finance. It began in June 1995 as Reliance Mutual Fund, a joint venture of Reliance Capital and Japan’s Nippon Life Insurance. In October 2019, Nippon Life acquired Reliance’s entire stake and entirely rebranded the fund house — a rare instance of a Japanese institution taking full ownership of a large Indian financial business. By

December 2025 the AMC had transformed into a ₹7.12 lakh crore powerhouse with total AUM at ₹8.16 lakh crore, recording 23% year-on-year growth. It is now India's undisputed leader in passive investing, with 31% of its assets in passive products and the № 1 position in Silver ETFs and commodity ETFs. The fund house's journey from a corporate group's financial arm to a globally-owned independent AMC shows how strategic change can unlock growth.

5. Kotak Mahindra Mutual Fund

Kotak Mahindra Mutual Fund was established in June 1998 as a wholly-owned subsidiary of Kotak Mahindra Bank, which itself was founded by the banker Uday Kotak in 1985. In December 2025 the AMC joined the exclusive ₹5 lakh crore club, with average quarterly AUM reaching ₹5.73 lakh crore and the fund house adding ₹84,562 crore during the calendar year. The Kotak Group was the first Indian non-banking financial company to secure a banking licence, and the mutual fund carries the same entrepreneurial energy. The fund house was also the first in India to launch a Global REIT Fund of Fund, reflecting a willingness to bring novel ideas to domestic investors.

6. Aditya Birla Sun Life Mutual Fund

Aditya Birla Sun Life Mutual Fund was established in 1994 as a joint venture between the Aditya Birla Group and Sun Life Financial Inc. of Canada. By December 2025 its total AUM reached ₹4.20 lakh crore, with quarterly average assets growing 15% year-on-year. The AMC manages a well-rounded product suite of 47 equity, 25 debt, and 11 hybrid funds, and has built a loyal base of nearly 79 lakh investor folios across 290 locations. Its strength lies not in headline-grabbing numbers but in steady, dependable presence — a reflection of the decades-old partnership between one of India's largest industrial houses and a Canadian financial major.

7. UTI Mutual Fund

No mutual fund in India carries a deeper historical legacy than UTI. The Unit Trust of India was created by an Act of Parliament on 30 December 1963 under the guidance of the Reserve Bank of India, and it launched India's first mutual fund scheme — Unit Scheme 1964. For decades, UTI was the only vehicle through which ordinary Indians could access the stock market. After the parent body's restructuring in 2003, its mutual

fund arm was registered with SEBI and sponsored by SBI, PNB, BoB, and LIC. By December 2025, UTI Mutual Fund managed quarterly average assets of ₹3.94 lakh crore, with roughly 70% of its portfolio in equities. The AMC's Nifty 50 Index Fund recently completed 25 years — still running strong — a testament to the institution that quite literally taught India to invest.

8. Axis Mutual Fund

Axis Mutual Fund was established in September 2009, making it the youngest entrant in the top 10. Backed by Axis Bank (which holds a 75% stake) and Schroders of London, the AMC began with a single equity fund and has rapidly climbed the rankings. By December 2025 its AUM stood at ₹3.33 lakh crore, and the fund house has publicly stated its ambition to break into India's top-6 by 2029. Axis Mutual Fund arrived at a time when the mutual fund industry was already well established, yet it built a reputation for thoughtful equity products and a disciplined investment culture within just 15 years. Its journey shows that timing matters less than the clarity of approach.

9. Tata Mutual Fund

Tata Mutual Fund entered the Indian market in June 1995, sponsored by Tata Sons and Tata Investment Corporation. In September 2025 it crossed ₹2 lakh crore in AUM for the first time and posted the highest percentage growth among the top 10 AMCs that quarter — an 11% jump. Strong inflows into hybrid and equity schemes powered the rise, with the fund house drawing ₹12,800 crore in net inflows in October 2025 alone. The Tata name carries a century-old reputation for integrity, and the mutual fund business has quietly mirrored that — growing steadily without aggressive marketing or bold claims, just the quiet confidence of India's largest conglomerate.

10. Mirae Asset Mutual Fund

Mirae Asset Mutual Fund arrived in India in October 2007 as the Indian arm of South Korea's Mirae Asset Financial Group, founded by the visionary investor Hyeon-Joo Park. The parent group was itself born in the chaos of the 1997 Asian financial crisis, when Park realised that no independent Korean asset manager existed. By the end of 2025, Mirae Asset's Indian AUM had reached ₹2.12 lakh crore, and the fund house climbed back into India's top 10 rankings. Known for high-quality equity products, Mirae Asset globally manages over 403 trillion won — the equivalent of roughly

₹25 lakh crore — making it one of the world's largest independent asset managers. Its India story is one of patient, research-driven investing backed by a truly global parent.

1.9 Recent Development in Mutual Fund Industry in India

The past two decades have reshaped the structure, transparency, and cost-efficiency of India's mutual fund industry, largely under SEBI's incremental regulatory push. Data from 2014–2025 shows an industry that has simultaneously expanded access while sharpening investor protection. These changes are best understood through the 'cost revolution', which itself rests on two interlinked regulatory milestones.

1. The Cost Revolution: Direct Plans & TER Reforms: The Direct Plan Reformation (2013)

In January 2013, SEBI mandated that every mutual fund scheme offer a "Direct Plan" alongside the existing Regular Plan. Before 2013, whether you invested through an agent or directly, you paid the same expense ratio — one that included the distributor's commission. Direct Plans changed this permanently: they stripped out the distributor commission, resulting in structurally lower Total Expense Ratios (TERs).

The financial impact of this single regulation is staggering. The difference between regular and direct plan expense ratios ranges from 50–60 basis points at the lower end to as much as 150–180 basis points on the upper side. Consider a real example: SBI Small Cap Fund's regular plan expense ratio stood at 1.85%, while its direct plan was just 0.72%. A monthly SIP of ₹10,000 in the direct plan of this fund, if started in January 2013, would have grown to ₹44.7 lakh — compared to just ₹41.3 lakh in the regular plan, creating an additional ₹3.4 lakh purely from the cost difference.

The market responded rapidly. Within a year of the launch, about one-third of industry assets had moved to direct plans. Large institutional investors led this shift: as of November 2022, corporates held 74% of their mutual fund assets in direct plans, banks 92%, and foreign institutional investors 81%. This regulation gave sophisticated investors a clear path to avoid paying for advice they didn't need.

2. The SIP Revolution: Disciplined Investing Goes Mainstream

The rise of SIPs, though a market-driven trend rather than a regulatory mandate, represents the single most powerful behavioural shift in Indian household finance. This

quiet revolution unfolded through a remarkable growth trajectory: from a modest ₹3,122 crore in April 2016, monthly SIP inflows climbed past ₹8,000 crore by FY20, scaled ₹26,688 crore by May 2025, and ultimately reached a historic ₹32,087 crore in March 2026. For the full fiscal year FY26, total SIP inflows touched ₹3.49 lakh crore.

Behind these numbers lies a profound structural transformation. Active SIP accounts crossed 9.25 crore in 2025. The average SIP ticket size remained modest — indicating genuine retail, non-institutional participation. SIPs provided a psychological anchor during market volatility: investors continued their monthly contributions even during sharp corrections, creating a powerful domestic counterbalance to foreign portfolio outflows. This disciplined flow of retail money has fundamentally altered the stability profile of Indian equity markets.

1. The TER Overhaul (2018)

While Direct Plans addressed distribution costs, the overall expense structure remained virtually untouched since the original SEBI regulations of 1996. By 2018, the industrial-scale growth of mutual funds had rendered the old slab structure obsolete — schemes managing ₹700 crore were paying the same TER as those managing ₹22,000 crore.

SEBI's September 2018 circular fundamentally rewrote the rules:

- Maximum TER cap reduced: For open-ended equity schemes, the maximum TER was reduced by 25 basis points from 2.50% to 2.25%.
- Sliding scale tightened: TERs were calibrated to drop as AUM grows. Equity schemes could charge a maximum 2.25% for the first ₹500 crore of assets, 2.00% for the next ₹250 crore, 1.75% for the next ₹1,250 crore, and progressively lower beyond.
- Upfront commissions banned: Fund houses were prohibited from paying upfront commissions on new investments; only trail commissions were permitted from that point onward, eliminating the incentive for distributors to "churn" investor portfolios for quick commissions.

This was a landmark step towards ensuring investors — not distributors — became the primary focus of the mutual fund ecosystem.

2. Ongoing Cost Reforms (2024–2025)

The cost-consciousness has persisted. In December 2025, SEBI cleared another sweeping overhaul: brokerage limits were halved — from 12 bps to 6 bps for cash market transactions and from 5 bps to 2 bps for derivatives. Further proposals aim to make TER calculations exclusive of statutory levies like GST, ensuring any future tax changes are directly passed through to investors rather than absorbed into opaque fee structures.

3. Architectural Reform: The Categorization Mandate (2017)

Before October 2017, navigating the mutual fund universe could be bewildering even for experienced investors. Fund houses routinely ran multiple schemes with near-identical strategies but vastly different labels — a "Premier Equity Fund," an "Equity Growth Fund," and an "Opportunity Fund" might all be large-cap portfolios under different monikers. In October 2017, SEBI dismantled this opacity by introducing a comprehensive categorization framework, one of the most decisive regulatory interventions ever undertaken in the industry, built upon several critical pillars:

- **Five Broad Groups:** All schemes were classified under Equity, Debt, Hybrid, Solution-Oriented, and Other Schemes.
- **36 Standardized Categories:** Within these groups, SEBI prescribed exactly 36 distinct scheme categories with clearly defined characteristics.
- **One Scheme Per Category:** Each AMC was permitted to offer only one open-ended scheme per category. Multiple schemes with overlapping mandates had to be merged or repositioned.
- **Uniform Market Cap Definitions:** For the first time, SEBI legally defined Large Cap (1st–100th company), Mid Cap (101st–250th), and Small Cap (251st onwards) by full market capitalization, with AMFI mandated to maintain and publish the official list semi-annually.

In 2025, SEBI issued a further draft circular proposing additional refinements — including portfolio overlap caps (a maximum 50% overlap between certain categories like value and contra funds) and clearer naming conventions for debt schemes.

6. The New Geography of Wealth: B30 Outpacing T30

Perhaps the most hopeful trend of the past decade has been the geographic democratisation of mutual fund investing. AMFI classifies locations as T30 (Top 30

cities) and B30 (Beyond Top 30) — and the data tells a compelling story of financial inclusion. As of June 2025, B30 locations accounted for 18.5% of total mutual fund AUM, translating to nearly ₹14 lakh crore. More significant is the pace: from 2020 to 2025, B30 AUM grew at a compounded annual growth rate (CAGR) of over 24%, substantially outpacing T30 growth. By October 2025, individual MF assets from B30 cities had risen 23% year-on-year, compared to a 14% increase in T30 assets.

Several forces converged to drive this transformation. The "Mutual Funds Sahi Hai" campaign penetrated Tier-2 and Tier-3 towns, digital distribution platforms (Groww, Zerodha, Angel One) simplified access dramatically, rising financial literacy created demand, and SEBI's incentive structure of additional TER allowance for B30-sourced inflows gave AMCs a commercial reason to expand beyond metros.

7. The Passive Investing Surge

India is slowly but surely replicating the global shift toward passive investing:

- Net inflows into passive funds more than doubled in FY25, rising approximately 118% year-on-year, supported by a 278% increase in index fund flows and a 59% rise in ETF flows.
- The AUM share of passive funds surged to 17.1% as of September 2025, up from just 7% in FY20.
- Over the decade, passive fund AUM grew from roughly ₹1,848 crore in March 2012 to over ₹73,342 crore by January 2022 — an increase of nearly 3,868%.

Recognising the distinct nature of the passive fund business, SEBI introduced the Mutual Funds Lite (MF Lite) framework in December 2024 — a relaxed regulatory regime with lower entry barriers, simplified compliance, and lighter governance requirements for entities offering only passive products.

8. The Digital Infrastructure Leap

The past decade witnessed a sweeping digitisation of the investment journey. The number of demat accounts jumped from approximately 2.3 crore in FY14 to over 17.1 crore by August 2024 — an increase exceeding 650%. Mutual fund folios surged past 26.1 crore by December 2025, while digital platforms such as Groww (founded 2016) amassed over 4.79 crore registered users and 1.26 crore active clients by mid-2025.

The operational footprint also expanded dramatically: as of April 2025, investors can store demat and mutual fund holding statements on DigiLocker, integrating capital market assets into India's national digital infrastructure.

9. The Macro Picture: AUM Growth Trajectory

Underpinning all these structural shifts is a staggering expansion in scale. A decade ago, in 2015, total industry AUM was approximately ₹12 lakh crore. By December 2025, that figure had crossed ₹80 lakh crore — a more than six-fold increase. The ratio of mutual fund AUM to bank deposits nearly tripled, from 12.6% in 2015 to 33.4% in 2025.

1.10 PE Ratio in Mutual Fund Portfolio Analysis

The Price-to-Earnings (PE) Ratio is one of the most widely used valuation indicators in financial analysis and investment decision-making. It represents the relationship between the market price of a company's share and its earnings per share (EPS). The ratio indicates how much investors are willing to pay for one rupee of a company's earnings. In simple terms, it reflects the market's expectations regarding the future growth and profitability of a company.

The PE ratio plays an important role in identifying growth-oriented and value-oriented investment opportunities. Growth companies, especially those operating in rapidly expanding industries, usually trade at higher PE ratios because investors anticipate higher future earnings. On the other hand, mature or undervalued companies may trade at lower PE ratios. Therefore, the PE ratio helps investors assess whether a stock is relatively expensive or reasonably valued compared to its earnings potential.

In the modern investment environment, where investors increasingly seek informed and analytical decision-making, the PE ratio has become a significant tool for evaluating both individual stocks and mutual fund portfolios. Its simplicity and practical relevance make it one of the most preferred valuation measures among investors, analysts, and fund managers.

The PE ratio is not only useful for evaluating individual companies but also plays an important role in analysing mutual fund portfolios. In equity mutual funds, the portfolio PE ratio represents the weighted average PE ratio of the stocks held within the scheme. It provides investors with an overall picture of the valuation level of the underlying portfolio and helps in understanding whether the fund is positioned toward growth-oriented or value-oriented investments.

A mutual fund portfolio with a high PE ratio generally indicates that the fund manager has invested in companies with strong future growth expectations. Such portfolios are commonly associated with growth investing strategies and are expected to deliver higher returns over the long term, although they may also involve greater market risk and valuation sensitivity. Conversely, a portfolio with a lower PE ratio may reflect investments in relatively undervalued or stable companies, often associated with value investing strategies.

In recent years, investors have increasingly started analysing portfolio valuation measures before selecting mutual fund schemes. Merely evaluating past returns is no longer considered sufficient, as future performance largely depends on the quality and valuation of the underlying holdings. The PE ratio therefore acts as an important indicator of market sentiment, growth expectations, and potential investment risk within a mutual fund scheme.

The analysis of portfolio PE ratio has become particularly relevant in the Indian mutual fund industry, where retail participation has increased substantially after the COVID-19 pandemic. Investors are now more aware of valuation-driven investing and are actively comparing schemes based on the valuation characteristics of their underlying portfolios.

1.11 Growth Investing vs Value Investing

Growth investing and value investing represent two important approaches followed by investors and fund managers in equity markets. These investment philosophies differ primarily in terms of valuation expectations, company characteristics, and investment objectives.

Growth investing focuses on companies that are expected to achieve higher earnings growth in the future. Such companies usually operate in rapidly expanding industries and often trade at higher PE ratios because investors are willing to pay a premium for anticipated future growth. Growth-oriented mutual fund schemes generally invest in sectors such as technology, consumer services, and financial services, where future expansion opportunities are considered strong.

Value investing, on the other hand, emphasizes investing in companies that are believed to be undervalued relative to their intrinsic worth. These companies often trade at lower PE ratios and may be temporarily overlooked by the market. Value investors expect that the market will eventually recognize the true value of such companies, leading to price appreciation over time.

Both approaches have their own advantages and limitations. Growth investing may generate superior returns during periods of economic expansion and bullish market conditions, while value investing often performs better during periods of market correction and valuation normalization. Mutual fund schemes therefore differ significantly based on the investment philosophy adopted by fund managers.

The distinction between growth and value investing becomes particularly important in PE-based portfolio analysis, as the valuation level of major holdings reflects the strategic orientation of the mutual fund scheme.

1.12 Relationship between PE Ratio and Fund Performance

The relationship between PE ratio and mutual fund performance is an important area of investment analysis. The valuation profile of a mutual fund portfolio often influences its return-generating capacity, risk level, and long-term sustainability. Funds with high portfolio PE ratios generally consist of growth-oriented stocks and may deliver superior returns during favourable market conditions. However, such schemes may also experience higher volatility because elevated valuations increase sensitivity to market corrections.

In contrast, funds with lower PE ratios are often associated with value-oriented investing strategies. These schemes may provide relatively stable performance and

downside protection during uncertain market conditions. However, their growth potential may sometimes be comparatively moderate.

The relationship between PE ratio and fund performance is not always linear, as market conditions, economic cycles, investor sentiment, and sector performance also influence returns. During bullish phases, high PE portfolios may outperform due to strong growth expectations and valuation expansion. On the other hand, during market corrections or economic slowdowns, lower PE portfolios may demonstrate greater resilience.

In performance evaluation studies, valuation measures are often examined alongside risk-adjusted performance indicators such as Sharpe Ratio, Treynor Ratio, Jensen Alpha, and Fama Net Selectivity measures. Such analysis helps in understanding whether higher valuation portfolios actually generate superior risk-adjusted returns over time.

Thus, analysing the relationship between PE ratio and fund performance provides deeper insights into the effectiveness of valuation-based mutual fund selection strategies.

1.13 Mutual Fund Selection Based on Portfolio Valuation

Traditionally, investors have selected mutual fund schemes primarily on the basis of historical returns, star ratings, or short-term market performance. However, increasing market awareness and financial literacy have gradually shifted investor attention toward portfolio quality and valuation-based analysis. Investors now recognize that sustainable long-term returns depend not only on past performance but also on the valuation and strength of the underlying portfolio holdings.

Portfolio valuation-based mutual fund selection involves analysing the valuation characteristics of major holdings, particularly indicators such as the PE ratio, before making investment decisions. This approach helps investors identify whether a scheme is heavily invested in expensive growth stocks or relatively undervalued companies with future appreciation potential.

The valuation profile of a mutual fund portfolio also provides insights into the risk-return characteristics of the scheme. High PE portfolios may offer strong growth opportunities but may involve greater market risk, while lower PE portfolios may

provide comparatively stable returns and valuation comfort. Therefore, portfolio valuation analysis enables investors to align mutual fund selection with their investment objectives, risk tolerance, and market expectations.

In the Indian mutual fund industry, the increasing availability of portfolio disclosures and digital investment platforms has made valuation-based analysis more accessible to retail investors. Consequently, investors are becoming more analytical in scheme selection and are increasingly evaluating the PE ratios of major holdings as part of their investment decision-making process.

Therefore, portfolio valuation has emerged as an important dimension in mutual fund selection, particularly for investors seeking long-term wealth creation through informed and research-oriented investment strategies.

Chapter 2: Literature Review: Mutual Fund Performance Evaluation

2.1 Foundational and Classical Studies

1. Jensen (1968) Michael C. Jensen's seminal work, "The Performance of Mutual Funds in the Period 1945-64," published in *The Journal of Finance*, established the foundational framework for risk-adjusted performance evaluation in the mutual fund industry. Jensen introduced what would later be universally recognized as Jensen's Alpha, a performance measure that evaluates fund returns after adjusting for systematic risk using the Capital Asset Pricing Model (CAPM). The methodology involved regressing fund excess returns against market excess returns, with the intercept term representing the fund's risk-adjusted performance relative to the market portfolio. Analyzing a comprehensive sample of 115 mutual funds over a 20-year period, Jensen documented that, on average, funds underperformed their benchmark indices on a risk-adjusted basis by approximately 1.1 percent annually. This finding suggested that fund managers, collectively, lacked the ability to consistently outperform the market after accounting for the systematic risk undertaken. The study's methodological contribution extended beyond its empirical findings; it established a rigorous framework for distinguishing between returns attributable to managerial skill and those merely compensating for systematic risk exposure. Jensen's work fundamentally transformed performance evaluation from simple return comparisons to sophisticated risk-adjusted assessments, providing the theoretical underpinning that continues to inform contemporary research in mutual fund performance evaluation.
2. Sharpe (1966) William F. Sharpe's pioneering study, "Mutual Fund Performance," published in *The Journal of Business*, introduced the Sharpe Ratio, which remains among the most widely employed performance metrics in academic research and practitioner applications. Sharpe developed a ratio that measures risk-adjusted returns by dividing

a fund's excess returns (above the risk-free rate) by the portfolio's total standard deviation, thereby providing a measure of return per unit of total risk. The study analyzed the performance of 34 mutual funds over the period 1954-1963, employing a comprehensive methodology that accounted for both systematic and unsystematic risk components. Sharpe's analytical framework demonstrated that the Sharpe Ratio enabled meaningful comparisons across funds with varying investment objectives and risk profiles, as it standardized performance measurement by incorporating total portfolio volatility. The study's fundamental contribution was its establishment of the principle that investors must evaluate returns in relation to the risk undertaken to generate those returns, rejecting the simplistic comparison of raw returns as an inadequate basis for investment decisions. The Sharpe Ratio's enduring relevance stems from its intuitive interpretation, computational simplicity, and robust theoretical foundation in modern portfolio theory, making it an indispensable tool for performance evaluation across diverse asset classes and investment vehicles.

3. Treynor (1965) Jack L. Treynor's influential article, "How to Rate Management of Investment Funds," published in the Harvard Business Review, introduced the Treynor Ratio as a performance measure that evaluates excess returns relative to systematic risk rather than total risk. Treynor's conceptual contribution recognized a critical distinction in performance evaluation: for well-diversified portfolios where unsystematic risk has been effectively eliminated through diversification, only systematic risk (beta) is relevant for performance assessment. The Treynor Ratio, computed as the excess return divided by the portfolio's beta, provided investors with a metric to assess how efficiently fund managers utilized market risk to generate returns. The study was among the first to explicitly acknowledge that rational investors, holding diversified portfolios, should be concerned primarily with a fund's contribution to systematic portfolio risk rather than its total volatility. Treynor's framework emphasized that fund managers who assume higher

systematic risk should be evaluated based on whether the additional returns generated adequately compensate for that incremental risk exposure. This study's theoretical contribution laid the groundwork for subsequent developments in performance evaluation, including the conditional performance models that would later incorporate time-varying risk exposures and macroeconomic conditioning information.

4. Fama and French (1993) Eugene F. Fama and Kenneth R. French's landmark study, "Common Risk Factors in Returns on Stocks and Bonds," published in the Journal of Financial Economics, fundamentally transformed the landscape of performance evaluation by extending the Capital Asset Pricing Model to incorporate multiple risk factors. The authors identified three common risk factors that explain cross-sectional variation in stock returns: market risk (the excess return on the market portfolio), size risk (the difference between returns on small and large capitalization stocks, denoted SMB for "small minus big"), and value risk (the difference between returns on high and low book-to-market stocks, denoted HML for "high minus low"). The Fama-French three-factor model demonstrated that the historical underperformance of actively managed funds could be partially explained by systematic exposures to these additional risk factors rather than simply reflecting a lack of managerial skill. The model's significance for performance evaluation lies in its capacity to decompose fund returns into components attributable to systematic factor exposures versus genuine managerial alpha. By providing a more comprehensive benchmark that accounts for multiple dimensions of systematic risk, the three-factor model enabled researchers to conduct more precise performance attribution and reduced the bias inherent in single-factor CAPM evaluations. This methodological advancement became the standard framework for performance evaluation, fundamentally altering how researchers conceptualize and measure managerial skill.

5. Carhart (1997) Mark M. Carhart's influential study, "On Persistence in Mutual Fund Performance," published in *The Journal of Finance*, extended the Fama-French three-factor model by adding a momentum factor, thereby creating the four-factor model that has become the dominant framework for contemporary performance evaluation research. Carhart incorporated a momentum factor (Winners Minus Losers, denoted WML) based on the finding that stocks with strong past performance tend to continue outperforming in the near term. Analyzing a comprehensive sample of mutual funds from 1962 to 1993, Carhart provided robust evidence regarding the persistence of mutual fund performance, revealing that while funds exhibit some performance persistence, particularly among the worst-performing funds, this persistence is largely explained by the momentum factor and transaction costs rather than genuine managerial skill. The study's methodological contribution was twofold: first, the four-factor model provided superior explanatory power for fund returns by accounting for momentum effects that had been previously omitted; second, the application of this model enabled more precise identification of funds with genuine stock-picking ability versus those whose performance reflected systematic factor exposures. Carhart's findings challenged the notion that past performance reliably predicts future outcomes, demonstrating that apparent persistence often reflects common factor exposures rather than persistent managerial skill, with significant implications for investment selection strategies.
6. Grinblatt and Titman (1989) Mark Grinblatt and Sheridan Titman's pioneering study, "Mutual Fund Performance: An Analysis of Quarterly Portfolio Holdings," published in *The Journal of Business*, introduced a revolutionary approach to performance evaluation by analyzing actual portfolio holdings rather than relying solely on fund returns. The authors developed holdings-based performance measures that evaluate managerial skill based on changes in portfolio composition, offering insights into stock-picking ability that returns-based analyses cannot capture. The methodology involved examining the quarterly holdings of

mutual funds and constructing measures that capture the extent to which managers increase holdings in securities that subsequently appreciate in value. This approach provided a more direct assessment of managerial ability by focusing on investment decisions rather than realized returns that may be contaminated by market timing effects, transaction costs, or random fluctuations. The study demonstrated that holdings-based measures offer several distinct advantages: they are less susceptible to benchmarking errors, provide more timely information about manager behavior, and enable the decomposition of performance into components attributable to individual security selection decisions. Grinblatt and Titman's contribution fundamentally advanced the understanding of how managers generate performance by providing a methodological framework that directly examines the investment decisions underlying observed returns, establishing holdings-based analysis as a complementary approach to traditional returns-based evaluation.

7. Grinblatt and Titman (1993) In their subsequent work, "Performance Measurement Without Benchmarks: An Examination of Mutual Fund Returns," published in *The Journal of Business*, Grinblatt and Titman introduced a benchmark-free approach to performance evaluation that addressed the inherent biases and limitations associated with benchmark selection. The authors developed a methodology that enables performance measurement without requiring an external benchmark, thereby reducing benchmark bias and providing more accurate assessments of managerial ability when appropriate benchmarks are unavailable or when funds employ strategies that deviate substantially from conventional style classifications. The approach utilized the concept of "performance measurement without benchmarks" by employing a measure based on the covariance between portfolio weights and subsequent returns, effectively capturing the extent to which managers allocate capital to securities that later generate superior returns. This methodology was particularly valuable for evaluating funds with unique investment mandates or those

operating in markets where appropriate benchmarks are difficult to construct. The study's theoretical contribution was significant in that it recognized that benchmark selection introduces potential biases that can materially affect performance conclusions, and it provided an alternative framework that circumvents these limitations. Grinblatt and Titman's benchmark-free approach remains relevant for evaluating funds in emerging markets, alternative investment vehicles, and strategies where traditional benchmark comparisons may be inappropriate or misleading.

8. Fama and French (2010) Eugene F. Fama and Kenneth R. French's influential study, "Luck versus Skill in the Cross-Section of Mutual Fund Returns," published in *The Journal of Finance*, applied bootstrap methodology to distinguish genuine managerial skill from statistical luck in a large sample of mutual funds. The authors employed a rigorous statistical approach that involved resampling fund returns to generate distributions of performance measures under the null hypothesis that observed returns reflect no genuine skill, thereby enabling the identification of managers whose performance cannot be explained by random variation. Analyzing a comprehensive sample of US equity mutual funds spanning several decades, Fama and French demonstrated that while a small number of managers possess genuine stock-picking skill sufficient to cover transaction costs and expenses, the vast majority of observed performance differentials are attributable to random variation rather than persistent skill. The findings fundamentally challenged the prevailing notion that active management consistently delivers superior returns, suggesting that even among funds with positive alphas, few exhibit performance that cannot be explained by luck. The study's methodological contribution was substantial, introducing bootstrap techniques as a rigorous approach for addressing the fundamental challenge of distinguishing skill from luck in performance evaluation. This work has profound implications for investors, fund selectors, and regulators, indicating that active management outperformance is rare and

concentrated among a small subset of managers, while most funds' performance reflects random outcomes consistent with efficient markets.

2.2 Risk-Adjusted Performance Metrics

9. Sortino and Price (1994) Frank A. Sortino and Lee N. Price's seminal work, "Performance Measurement in a Downside Risk Framework," published in *The Journal of Investing*, introduced the Sortino Ratio as a refined performance measure that addresses a fundamental limitation of the Sharpe Ratio by focusing exclusively on downside deviation rather than total volatility. The Sortino Ratio recognizes a critical insight from behavioral finance and investment practice: investors are primarily concerned with negative returns and downside risk, while upside volatility should not be penalized as risk because it represents desirable positive outcomes. The ratio is computed as excess returns divided by downside deviation, where downside deviation measures volatility only for returns falling below a specified minimum acceptable return threshold. This methodological refinement is particularly valuable for evaluating funds with asymmetric return distributions, such as hedge funds, options-based strategies, and funds employing derivative strategies that generate non-normal return patterns. The Sortino Ratio provides a more intuitive risk measure for investors with asymmetric risk preferences, aligning performance evaluation more closely with the actual concerns of capital preservation and loss avoidance that dominate investor decision-making. The study's contribution extended beyond the introduction of a new metric to encompass a broader framework for downside risk measurement, establishing the conceptual foundation for incorporating investor-specific risk preferences into performance evaluation.
10. Young (1991) Terry W. Young's work introducing the Calmar Ratio, presented in "Calmar Ratio: A Smoother Tool," provided a performance metric specifically designed to evaluate investment strategies where capital preservation and drawdown management are paramount concerns.

The Calmar Ratio evaluates performance by comparing average annual returns to maximum drawdown over a specified period, providing a measure of return per unit of peak-to-trough decline risk. This metric is particularly valuable for assessing fund performance during market downturns and has gained prominence in evaluating alternative investments, commodity trading advisors, and funds where traditional volatility measures may inadequately capture the risk of significant capital loss. The ratio's methodological contribution lies in its focus on maximum drawdown as a risk measure, which more directly addresses investor concerns about worst-case scenarios than measures based on variance or standard deviation. For mutual fund evaluation, the Calmar Ratio provides complementary information to volatility-based measures, offering insights into how funds perform during adverse market conditions and how effectively managers limit losses during market stress. The metric's adoption in institutional investment practice reflects the recognition that drawdown risk is a critical consideration for investors with finite risk tolerance and capital constraints.

11. Ingersoll et al. (2007) Jonathan E. Ingersoll, Matthew R. Spiegel, William T. Goetzmann, and Ivo Welch's study, "The Manipulation-Proof Performance Measure," published in *The Journal of Financial Economics*, addressed a critical vulnerability in traditional performance metrics by developing the Manipulation-Proof Performance Measure (MPPM). The authors recognized that conventional performance measures, including Sharpe and Treynor ratios, are susceptible to strategic manipulation by fund managers who can employ derivative strategies or options-based approaches to artificially inflate measured performance while maintaining or even increasing risk exposure. The MPPM was designed to be immune to such manipulation by incorporating a sophisticated utility-based framework that properly accounts for the entire distribution of returns and penalizes strategies that generate favorable measured performance through risk manipulation rather than genuine skill. The methodology employs a power utility function with a specified coefficient of risk

aversion, providing a performance measure that is consistent with expected utility maximization and cannot be arbitrarily increased through derivative overlays or other manipulation strategies. The study's contribution is significant for performance evaluation in markets where derivative instruments are readily available, as it provides a framework that more accurately reflects the true risk-adjusted performance of fund strategies that incorporate such instruments. The MPPM has particular relevance for evaluating funds operating in sophisticated markets where managers have access to complex derivative strategies that can distort traditional performance metrics.

12. Burke (1994) Gerald Burke's contribution, "A Sharp Ratio for Downside Risk," introduced the Burke Ratio as a downside risk-adjusted performance measure that penalizes volatility below a specified threshold while ignoring positive volatility. The Burke Ratio addresses the limitation of traditional risk measures that treat upside and downside volatility symmetrically, recognizing that investors are primarily concerned with returns below a minimum acceptable threshold. The measure is computed by dividing excess returns by the downside risk measure, where downside risk is calculated as the square root of the sum of squared returns below the threshold. This methodological approach provides a more nuanced assessment of risk-adjusted performance for investors with asymmetric risk preferences, particularly those who prioritize capital preservation and downside protection. The Burke Ratio's contribution to the performance evaluation literature lies in its explicit recognition that risk is multidimensional and that standard deviation may inadequately capture the risks that matter most to investors. For mutual fund evaluation, the Burke Ratio offers complementary insights to the Sortino Ratio and other downside risk measures, providing practitioners with a toolkit for assessing performance from multiple risk perspectives.

13. Keating and Shadwick (2002) Con Keating and William F. Shadwick's influential work, "The Omega Ratio," published in the Journal of Performance Measurement, introduced a performance metric that captures the entire distribution of returns rather than focusing solely on mean and variance. The Omega Ratio represents a significant advancement over traditional performance measures by incorporating all moments of the return distribution, including skewness and kurtosis, thereby providing a comprehensive risk-adjusted performance measure suitable for non-normally distributed returns. The ratio is defined as the probability-weighted ratio of gains to losses relative to a threshold, effectively integrating the entire return distribution into a single performance statistic. The methodological contribution of the Omega Ratio is substantial: it does not assume normal distribution of returns, does not require specification of investor utility functions, and provides a complete characterization of the risk-return profile that cannot be captured by measures focusing only on first and second moments. For mutual fund evaluation, particularly for funds employing non-traditional strategies or operating in markets with non-normal return distributions, the Omega Ratio offers a more comprehensive assessment than traditional mean-variance metrics. The ratio has gained considerable acceptance in institutional investment practice, particularly in evaluating hedge funds, private equity, and other alternative investment vehicles where return distributions exhibit significant skewness and kurtosis.
14. Bernardo and Ledoit (2000) Antonio E. Bernardo and Olivier Ledoit's study, "Gain, Loss, and Asset Pricing," published in the Journal of Political Economy, developed the Gain-Loss Ratio (Bernardo-Ledoit ratio) as a performance measure that evaluates investments by comparing expected gains to expected losses. The ratio provides a measure that captures investor preferences regarding downside protection, addressing limitations of mean-variance analysis for investors with asymmetric utility functions. The methodological framework is grounded in the concept of loss aversion, recognizing that investors typically weigh

potential losses more heavily than equivalent gains, a phenomenon well-documented in behavioral finance. The Gain-Loss Ratio is computed as the expected gain divided by the expected loss relative to a reference point, providing an intuitive measure of the trade-off between upside potential and downside risk. The study's contribution to performance evaluation lies in its explicit incorporation of loss aversion into the measurement framework, aligning performance assessment more closely with actual investor preferences. For mutual fund evaluation, the Gain-Loss Ratio provides complementary information to traditional risk-adjusted measures, offering insights into how funds balance the potential for appreciation against the risk of capital loss, which is particularly relevant for investors with limited risk tolerance or those approaching retirement.

2.3 Data Envelopment Analysis (DEA) Approaches

15. Basso and Funari (2001) Antonella Basso and Silvana Funari's comprehensive study, "A Data Envelopment Analysis Approach to Measure Mutual Fund Performance," published in the *European Journal of Operational Research*, provided the first comprehensive application of Data Envelopment Analysis to mutual fund performance measurement. The authors demonstrated that DEA, a non-parametric linear programming methodology, enables multi-criteria efficiency evaluation by simultaneously considering multiple inputs (such as risk measures, expense ratios, and load fees) and outputs (such as returns and risk-adjusted performance measures). The approach offers a significant alternative to traditional regression-based methods by accommodating multiple performance dimensions without requiring specification of a functional form or distributional assumptions. The study's methodology involved applying DEA to a sample of Italian mutual funds, demonstrating how the approach can incorporate both risk and return dimensions into a unified efficiency measure. The contribution of this work is substantial: it established DEA as a viable and potentially superior

alternative to traditional performance metrics, particularly when evaluating funds across multiple criteria or when performance cannot be adequately captured by a single measure. Basso and Funari's work opened a new research direction in mutual fund evaluation, demonstrating the flexibility and power of non-parametric frontier methods for performance assessment.

16. Murthi et al. (1997) B. P. S. Murthi, Y. K. Choi, and P. Desai's pioneering study, "Efficiency of Mutual Funds and Portfolio Performance Measurement: A Non-Parametric Approach," published in the *European Journal of Operational Research*, introduced Data Envelopment Analysis as a performance evaluation tool for mutual funds. The authors developed a DEA model using standard deviation, expense ratio, and load fees as inputs, with returns as output, providing a measure of operational efficiency that captures how effectively funds convert inputs into returns. The study's methodology involved applying DEA to a sample of US mutual funds, demonstrating that DEA rankings were broadly consistent with traditional performance measures while offering greater flexibility in incorporating multiple performance dimensions. The contribution of this research was threefold: first, it established DEA as a valid methodology for mutual fund evaluation; second, it demonstrated that non-parametric approaches can accommodate multiple performance dimensions without requiring aggregation weights; third, it provided evidence that DEA efficiency scores capture performance information not fully reflected in traditional metrics. Murthi et al.'s work established the foundation for a substantial body of subsequent research applying DEA methodologies to mutual fund evaluation across diverse markets and investment categories.
17. Murthi and Choi (2001) B. P. S. Murthi and Y. K. Choi's subsequent study, "Relative Performance Evaluation of Mutual Funds: A Non-Parametric Approach," extended DEA applications by developing comparative evaluation frameworks that enable relative performance assessment across funds with different investment objectives. The authors

recognized that traditional performance metrics often require funds to be evaluated against appropriate benchmarks matched to their investment style, and they demonstrated how DEA can accommodate multiple fund categories within a unified analytical framework. The methodology employed in this study involved applying DEA with categorical variables that capture fund investment objectives, enabling relative efficiency comparisons while controlling for style differences. The study's contribution lies in its demonstration that non-parametric approaches circumvent the distributional assumptions required by parametric methods, providing more robust performance assessments when return distributions deviate from normality or when sample sizes are limited. For mutual fund evaluation, this methodology is particularly valuable when comparing funds across different categories, as it enables meaningful relative performance assessment without imposing restrictive assumptions about the distribution of returns or the functional form of the return-generating process.

18. Babalos et al. (2015) Vasilios Babalos, Guglielmo Maria Caporale, and Nikolaos Philippas's study, "Towards a Holistic Approach for Mutual Fund Performance Appraisal: A Multi-Criteria Evaluation Framework," published in the Journal of Asset Management, integrated Data Envelopment Analysis with multicriteria decision aid techniques to create a comprehensive framework for fund performance evaluation. The authors recognized that performance evaluation is inherently multidimensional, requiring consideration of risk-adjusted returns, operational efficiency, investment style consistency, and other factors that cannot be captured by any single metric. The methodology employed in this study combined DEA with multicriteria techniques to produce a unified performance measure that incorporates multiple evaluation criteria while accommodating the preferences and priorities of different investor groups. The study's contribution is significant in that it addresses the fundamental challenge of aggregating multiple performance dimensions into a single evaluation framework without imposing arbitrary

weighting schemes. For mutual fund evaluation, this holistic approach provides a more complete assessment of fund performance than traditional methods, enabling investors to consider multiple aspects of performance simultaneously while maintaining analytical rigor and transparency.

19. Premachandra et al. (2012) I. M. Premachandra, John J. Boudreau, and H. David Sherman's study, "Best-Performing US Mutual Fund Families: A Two-Stage DEA Approach," applied a two-stage Data Envelopment Analysis methodology to evaluate mutual fund families rather than individual funds, providing insights into how organizational structure, economies of scale, and management practices influence performance at the family level. The authors recognized that fund families, as organizational entities, make strategic decisions that affect the performance of constituent funds, including resource allocation, manager selection, and brand positioning. The two-stage methodology involved first evaluating the efficiency of individual funds and then analyzing family-level factors that explain variations in fund efficiency. The study's contribution is significant in that it extended DEA applications from fund-level to family-level analysis, revealing that organizational characteristics such as family size, diversification, and fee structures significantly influence fund performance. For mutual fund evaluation, this research highlights the importance of considering the organizational context within which funds operate, suggesting that fund selection decisions should consider family characteristics alongside individual fund metrics.

20. Galagedera and Silvapulle (2002) Don U. A. Galagedera and Param Silvapulle's study, "Australian Mutual Fund Performance Appraisal Using Data Envelopment Analysis," applied DEA methodology to the Australian mutual fund market, validating the approach's applicability across different market contexts and demonstrating the robustness of non-parametric efficiency measures. The authors employed a DEA framework incorporating multiple inputs and outputs to evaluate a sample of

Australian equity funds, comparing DEA efficiency scores with traditional performance metrics. The study's findings indicated that DEA provided results consistent with traditional measures while offering additional insights into sources of inefficiency that could not be identified through conventional analysis. The contribution of this research lies in its demonstration that DEA methodology, originally developed and tested in US markets, is equally applicable to other developed markets with different regulatory regimes, investor bases, and market structures. For mutual fund evaluation, this cross-market validation is important for establishing the generalizability of DEA findings and supporting the methodology's adoption in diverse investment contexts.

21. Basso and Funari (2003) Antonella Basso and Silvana Funari's subsequent study, "Measuring the Performance of Ethical Mutual Funds: A DEA Approach," extended DEA methodology to evaluate socially responsible mutual funds, demonstrating how non-parametric approaches can incorporate ethical screening criteria alongside traditional performance metrics. The authors recognized that socially responsible funds present unique evaluation challenges because investors consider both financial returns and non-financial ethical criteria in their investment decisions. The DEA framework employed in this study incorporated both financial inputs and outputs alongside measures of ethical screening intensity, enabling evaluation of funds based on the full set of criteria relevant to socially responsible investors. The study's contribution is significant in that it demonstrates the flexibility of DEA for incorporating non-traditional performance dimensions that cannot be captured by conventional financial metrics. For mutual fund evaluation, particularly in the growing field of sustainable and responsible investing, this approach provides a framework for evaluating funds based on the multiple objectives that investors pursue, including both financial returns and alignment with ethical values.

22. Gregoriou (2003) Greg N. Gregoriou's study, "Performance Appraisal of Funds of Hedge Funds Using Data Envelopment Analysis," published in the *Journal of Wealth Management*, applied DEA methodology to evaluate hedge fund portfolios, demonstrating the versatility of non-parametric methods for evaluating alternative investment vehicles with non-normal return distributions. The author recognized that traditional performance metrics, which assume normally distributed returns, are inadequate for evaluating hedge funds and other alternative investments where return distributions exhibit significant skewness and kurtosis. The DEA framework employed in this study incorporated multiple risk measures, including skewness and kurtosis, alongside returns to provide a comprehensive evaluation that accounts for the full distributional characteristics of hedge fund returns. The study's contribution lies in its demonstration that DEA can accommodate the unique characteristics of alternative investments, providing a robust evaluation framework that does not rely on the distributional assumptions underlying traditional performance metrics. For mutual fund evaluation, this research has implications for evaluating funds employing non-traditional strategies or operating in markets where returns deviate substantially from normality.
23. Lamb and Tee (2012) John D. Lamb and Kai-Hong Tee's comprehensive review, "Data Envelopment Analysis Models of Investment Funds: A Critical Review," examined various DEA model specifications for investment fund evaluation, comparing input-output configurations and methodological approaches to identify best practices. The authors systematically reviewed the growing literature applying DEA to mutual funds, hedge funds, pension funds, and other investment vehicles, identifying common methodological challenges and proposing solutions based on theoretical and empirical considerations. The review examined key methodological issues including variable selection, orientation choices (input vs. output), returns to scale assumptions, and treatment of negative data, providing guidance for researchers seeking to apply DEA to investment fund evaluation. The study's contribution is significant in

that it synthesized a rapidly growing literature, identified areas of methodological consensus and disagreement, and proposed best practices for DEA applications in fund evaluation. For mutual fund research, this review provides a valuable methodological resource, helping researchers design DEA studies that produce reliable and comparable results across different applications and contexts.

24. Branda (2013) Martin Branda's study, "Diversification-Consistent Data Envelopment Analysis Models with Portfolio Diversification Constraints," published in the European Journal of Operational Research, developed DEA models incorporating diversification constraints to address a fundamental limitation of standard DEA applications in portfolio evaluation. The author recognized that standard DEA may penalize well-diversified portfolios by ignoring the benefits of risk reduction through diversification, potentially leading to efficiency rankings that do not reflect the true risk-return trade-offs faced by investors. The proposed methodology incorporated diversification constraints into the DEA framework, ensuring that efficiency evaluations account for the risk-reduction benefits of diversification. The study's contribution is significant in that it addresses a critical methodological issue in DEA applications to investment evaluation, ensuring that the methodology appropriately treats the relationship between diversification and risk. For mutual fund evaluation, this methodological refinement is important for ensuring that DEA efficiency scores accurately reflect the risk-return trade-offs relevant to investors, particularly when comparing funds with different diversification strategies or concentration levels.

2.4 Indian Mutual Fund Performance Studies

25. Jaiswal (2025) Ayush Kumar Jaiswal's contemporary study, "Performance Evaluation of Mutual Funds: An Analytical Study," published in the Indian Scientific Journal of Research in Engineering and Management, provides a comprehensive evaluation of Indian equity

mutual funds across large-cap, mid-cap, and multi-cap categories over the five-year period from 2020 to 2025. The study employed a descriptive and analytical methodology, utilizing secondary data from authoritative sources including the Association of Mutual Funds in India (AMFI), the Securities and Exchange Board of India (SEBI), and financial databases such as Moneycontrol and Value Research Online. The analytical framework incorporated a comprehensive suite of performance metrics including the Sharpe Ratio, Treynor Ratio, Jensen's Alpha, Sortino Ratio, and Beta analysis, supplemented by statistical techniques including descriptive statistics, correlation analysis, and t-tests to validate findings. The research revealed mixed results across the sample, with several funds demonstrating consistent outperformance relative to their benchmarks and exhibiting superior risk-adjusted returns, while a notable proportion of schemes failed to deliver comparable performance. The findings highlighted the critical importance of adopting a multifaceted evaluation approach when selecting mutual funds for investment, emphasizing that no single performance metric provides a complete assessment of fund quality. Key recommendations emerging from the study include strengthening investor education on risk-return metrics, enhancing transparency in fund disclosures, mandating regular performance audits, and promoting informed decision-making among retail investors. For policymakers and fund managers, the research underscored the necessity for performance accountability and investor-centric fund design. This study provides actionable insights and strategic guidelines for investors, fund managers, financial advisors, and regulatory authorities, contributing to the broader objective of fostering a transparent, efficient, and inclusive mutual fund ecosystem in India.

26. Sehgal and Jhanwar (2017) Sanjay Sehgal and Megha Jhanwar's study, "Evaluating Alternative Performance Benchmarks for Indian Mutual Fund Industry," published in the Journal of Advances in Management Research, compared eight asset pricing models to identify optimal benchmarks for Indian mutual fund evaluation. The authors recognized

that benchmark selection is a critical methodological decision in performance evaluation, as inappropriate benchmarks can lead to biased performance conclusions and misattribution of managerial skill. The study employed a comprehensive methodology comparing the explanatory power of various factor models, including the CAPM, Fama-French three-factor model, Carhart four-factor model, and conditional versions thereof, using a sample of Indian mutual funds. The empirical findings demonstrated that the Carhart four-factor model exhibited superior explanatory power for Indian mutual fund returns, establishing the framework's appropriateness for the Indian context. The study's contribution is significant for Indian mutual fund research, providing methodological guidance for subsequent studies by confirming the factor structure appropriate for the Indian market and demonstrating that international factor models are applicable in the Indian context with appropriate adaptations. This research established the foundation for more sophisticated performance evaluation studies in India, enabling researchers to conduct performance attribution that accounts for the multiple sources of systematic risk relevant to Indian capital markets.

27. Kumar and Singh (2024) Satish Kumar and Manjit Singh's study, "Risk Factors-Adjusted Performance and Persistence During Post-Subprime Crisis Period: Empirical Evidence from Indian Equity Mutual Funds," examined the risk-adjusted performance and persistence of Indian equity mutual funds using advanced factor models. The authors analyzed a comprehensive sample of 180 Indian equity funds, applying both the Fama-French three-factor model and the Carhart four-factor model to evaluate performance over the post-subprime crisis period. The methodological approach incorporated rigorous statistical techniques to distinguish genuine performance persistence from random variation, providing robust evidence of performance patterns in the Indian context. The findings documented significant performance persistence, particularly among consistent performers, suggesting that certain managers possess genuine skill that manifests in sustained

outperformance. The research provided evidence that the post-subprime crisis period exhibited distinct performance patterns requiring careful contextual analysis, highlighting the importance of considering market conditions and economic cycles in performance evaluation. The study's contribution lies in its application of sophisticated factor models to the Indian market, its documentation of performance persistence patterns, and its demonstration that international factor models are applicable for evaluating Indian funds while requiring careful adaptation to local market characteristics. This research advances the understanding of performance dynamics in Indian mutual funds and provides a methodological template for subsequent studies.

28. Sehgal and Subramaniam (2012) Sanjay Sehgal and Shekhar Subramaniam's study, "Profitability Factor in Indian Stock Market: An Empirical Examination," published in the Journal of Financial Economic Policy, examined the role of profitability as a risk factor in Indian stock returns, contributing to the development of more comprehensive factor models for the Indian market context. The authors recognized that the Fama-French three-factor model, while widely applied in developed markets, may not fully capture the risk-return dynamics in emerging markets where additional factors such as profitability may play a more significant role. The study employed a rigorous methodology to construct profitability factors and test their explanatory power for cross-sectional returns in the Indian market, providing evidence that profitability is a significant risk factor that should be incorporated into performance evaluation frameworks. The contribution of this research is significant for Indian mutual fund evaluation, as it expands the factor models available for performance attribution beyond the standard size, value, and momentum factors. By identifying additional sources of systematic risk relevant to Indian markets, this study enables more precise performance evaluation and more accurate attribution of fund returns to factor exposures versus genuine managerial skill.

29. Sehgal and Jain (2015) Sanjay Sehgal and Shradha Jain's study, "Size, Value, and Momentum Effects in Indian Stock Market: An Empirical Investigation," published in the *Journal of Emerging Market Finance*, established the factor structure for the Indian stock market by systematically examining size, value, and momentum effects. The authors recognized that factor models developed for developed markets may not directly apply to emerging markets with different market structures, investor bases, and regulatory regimes, necessitating empirical validation and potential adaptation. The study employed a comprehensive methodology examining the presence and magnitude of size, value, and momentum effects in Indian stock returns, constructing factor portfolios and testing their explanatory power for cross-sectional returns. The findings confirmed the presence of significant size, value, and momentum effects in Indian markets, providing the empirical foundation for constructing appropriate factor models for Indian mutual fund performance evaluation. The study's contribution is significant in that it provides the empirical basis for applying international factor models in the Indian context, enabling researchers to conduct performance evaluations that properly account for the systematic risk factors relevant to Indian capital markets.
30. Rao and Sarma (2016) D. Nageswara Rao and K. S. Sarma's comprehensive study, "Performance Evaluation of Indian Mutual Funds: An Empirical Analysis," applied multiple performance measures across various fund categories to provide benchmark evidence for comparative analysis and identify characteristics associated with superior performance. The study employed a comprehensive methodological framework incorporating traditional risk-adjusted measures including Sharpe, Treynor, and Jensen measures, alongside more recent metrics addressing downside risk and performance persistence. The authors analyzed a substantial sample of Indian mutual funds across categories including large-cap, mid-cap, small-cap, and multi-cap funds, providing comparative evidence on performance patterns across different

investment styles. The findings identified fund characteristics associated with superior performance, including expense ratios, portfolio turnover, fund size, and manager tenure, providing guidance for fund selection and policy recommendations for regulatory improvement. The study's contribution is significant for Indian mutual fund research, providing a comprehensive baseline for performance patterns in the Indian market and identifying the characteristics that distinguish superior performers from their peers. This research serves as an important reference for subsequent studies seeking to evaluate Indian mutual fund performance and understand the determinants of performance variation in the Indian context.

2.5 Performance Persistence Studies

31. Brown and Goetzmann (1995) Stephen J. Brown and William N. Goetzmann's influential study, "Performance Persistence," published in the *Journal of Finance*, developed the Cross-Product Ratio (CPR) as a methodology for testing performance persistence and distinguishing between true persistence and random variation. The authors recognized that evaluating performance persistence requires statistical methods that can differentiate between genuine persistent skill and outcomes that appear persistent due to random variation. The CPR methodology provided a non-parametric approach for testing persistence that does not require assumptions about the distribution of returns or the functional form of persistence patterns. Applying this methodology to a large sample of mutual funds, the research found evidence of persistence among both top and bottom performing funds, with implications for investment selection strategies. The study's contribution is significant for performance evaluation, providing a rigorous statistical methodology for testing one of the most fundamental questions in mutual fund research: whether past performance reliably predicts future outcomes. The CPR methodology has been widely adopted in subsequent persistence studies, establishing a standard for rigorous persistence testing.

32. Malkiel (1995) Burton G. Malkiel's influential study, "Returns from Investing in Equity Mutual Funds 1971-1991," published in the *Journal of Finance*, employed Z-score methodology to test performance persistence over a 20-year period, providing comprehensive evidence on the predictive power of historical performance. The author analyzed a large sample of equity mutual funds, examining whether funds that performed well in one period continued to outperform in subsequent periods. The findings revealed limited evidence that past performance reliably predicts future returns, cautioning against investment strategies based solely on historical performance rankings. The study demonstrated that while some short-term persistence exists, particularly among the worst-performing funds, long-term predictive ability is limited and insufficient to generate superior returns after accounting for transaction costs and expenses. Malkiel's contribution is significant for performance evaluation, providing robust evidence challenging the common investor practice of selecting funds based on past performance and reinforcing the efficient markets perspective on mutual fund performance.
33. Kahn and Rudd (1995) Ronald N. Kahn and Andrew Rudd's study, "Does Past Performance Predict Future Performance? A Statistical Analysis," published in the *Journal of Portfolio Management*, used chi-square persistence testing to examine the predictive power of historical performance rankings. The authors employed contingency table analysis to test whether funds classified as winners or losers in one period maintain their classification in subsequent periods, providing a non-parametric approach to persistence testing. The findings revealed that while some short-term persistence exists, particularly at quarterly and annual horizons, long-term predictive ability is limited and concentrated among consistently poor performers. The study's contribution lies in its demonstration that persistence patterns are not uniform across

performance categories, with poor performance showing greater persistence than superior performance. For mutual fund evaluation, this finding has important implications for risk management, suggesting that identifying persistently poor performers may be more feasible than identifying future superior performers.

34. Bollen and Busse (2005) Nicolas P. B. Bollen and Jeffrey A. Busse's study, "Short-Term Persistence in Mutual Fund Performance," published in the *Review of Financial Studies*, applied cross-sectional regression approaches to evaluate short-term performance persistence, finding evidence that top-performing funds exhibit persistence over quarterly horizons. The authors recognized that previous persistence studies focused on annual or multi-year horizons may miss persistence patterns that exist at shorter intervals, particularly given the high turnover and rapid information processing in modern markets. The methodology employed in this study involved regressing subsequent performance on prior performance while controlling for fund characteristics, providing a more refined test of persistence than classification-based approaches. The findings suggested that momentum effects influence short-term performance patterns, with funds that performed well in the most recent quarter continuing to outperform in the subsequent quarter. The study's contribution is significant for performance evaluation, demonstrating that persistence patterns may exist at shorter horizons than previously examined and that the choice of evaluation period materially affects persistence conclusions.
35. Kosowski et al. (2006) Robert Kosowski, Allan Timmermann, Russ Wermers, and Hal White's influential study, "Can Mutual Funds Really Pick Stocks? New Evidence from Bootstrap Analysis," published in the *Journal of Finance*, employed bootstrap methodology to distinguish genuine managerial skill from statistical luck in a large sample of mutual funds. The authors recognized that traditional persistence tests may incorrectly attribute random variation to genuine skill, particularly when

evaluating funds with short performance histories or volatile return streams. The bootstrap methodology involved resampling fund returns to generate distributions of performance measures under the null hypothesis of no skill, enabling the identification of funds whose performance cannot be explained by random variation. The findings revealed that while a subset of funds demonstrates genuine stock-picking ability, the distribution of performance is consistent with the presence of skilled managers at the top tail of the distribution, while the majority of funds exhibit performance consistent with random variation. The study's contribution is significant for performance evaluation, providing a rigorous methodology for distinguishing skill from luck and demonstrating that genuine skill exists but is concentrated among a minority of managers.

2.6 Fund Characteristics and Performance

36. Chen et al. (2004) Joseph Chen, Harrison Hong, Ming Huang, and Jeffrey D. Kubik's influential study, "Does Fund Size Erode Mutual Fund Performance? The Role of Liquidity and Organization," published in the *American Economic Review*, documented diseconomies of scale in mutual fund management, demonstrating that larger funds experience performance declines as size impedes manoeuvrability, increases transaction costs, and limits investment opportunities. The authors developed a theoretical framework explaining why scale should affect performance, identifying liquidity constraints and organizational factors as mechanisms through which size erodes performance. The empirical analysis employed a comprehensive sample of US mutual funds, documenting a significant negative relationship between fund size and subsequent performance after controlling for other fund characteristics. The findings established an inverted U-shaped relationship between fund size and performance, with performance improving as funds grow from small to medium size but declining beyond an optimal scale. The study's contribution is significant for performance evaluation, demonstrating that

fund characteristics, particularly size, materially affect performance outcomes and should be considered when evaluating and selecting funds.

37. Pollet and Wilson (2008) Joshua M. Pollet and Mungo Wilson's study, "How Does Size Affect Mutual Fund Behavior? Evidence from the Growth of Mutual Funds," published in the *Journal of Finance*, examined how fund size influences investment decisions, portfolio concentration, and trading behavior. The authors recognized that understanding the mechanisms through which size affects performance requires examining how portfolio characteristics change as funds grow. The methodology involved analyzing the relationship between fund size and portfolio characteristics, including the number of holdings, concentration ratios, turnover, and liquidity of positions. The findings revealed that larger funds tend to hold more stocks, reduce concentration, and exhibit different trading patterns that ultimately affect performance. Larger funds tend to avoid illiquid stocks and positions that would be difficult to exit, limiting their investment opportunity set. The study's contribution lies in its identification of the mechanisms through which size affects performance, providing insights into why the size-performance relationship exists and how managers can mitigate scale-related performance declines.
38. Prather et al. (2004) Larry Prather, William J. Bertin, and Thomas Henker's study, "Mutual Fund Characteristics, Managerial Attributes, and Fund Performance," published in the *Review of Financial Economics*, linked fund characteristics and managerial attributes to performance outcomes, identifying factors that distinguish superior from inferior performers. The authors employed a comprehensive methodology analyzing a large sample of US mutual funds, examining the relationship between performance and characteristics including expense ratios, turnover rates, manager tenure, fund family size, and load structures. The findings revealed that expense ratios, turnover, manager tenure, and fund family size are significant determinants of risk-adjusted returns, with lower expenses, moderate turnover, longer manager tenure, and larger

family size associated with superior performance. The study's contribution is significant for performance evaluation, providing empirical evidence on the fund characteristics that investors should consider when selecting funds and identifying managerial attributes associated with superior outcomes.

39. Cremers and Petajisto (2009) Martijn Cremers and Antti Petajisto's influential study, "How Active Is Your Fund Manager? A New Measure That Predicts Performance," published in the *Review of Financial Studies*, introduced Active Share as a measure of how actively a fund's portfolio deviates from its benchmark. The authors developed a methodology for calculating Active Share as the sum of the absolute differences between portfolio weights and benchmark weights, providing a measure of active management intensity. Analyzing a large sample of US equity mutual funds, the authors demonstrated that funds with high Active Share significantly outperform their benchmarks, while funds with low Active Share underperform. The study's contribution is significant for performance evaluation, providing a new measure that predicts future performance and offering insights into the sources of active management returns. Active Share has become widely adopted in both academic research and practitioner applications, providing a complementary perspective to traditional performance measures by focusing on the investment process rather than outcomes alone.
40. Wermers (2000) Russ Wermers's comprehensive study, "Mutual Fund Performance: An Empirical Investigation into Stock-Picking Talent, Style, Transactions Costs, and Expenses," published in the *Journal of Finance*, provided a detailed decomposition of performance sources, quantifying the contributions of stock-picking ability, investment style, transaction costs, and expense ratios to net fund returns. The author employed holdings-based analysis to decompose fund returns into components attributable to various managerial activities and fund characteristics. The findings revealed that funds, on average, possess

stock-picking talent that generates gross returns exceeding benchmarks, but these gross returns are substantially reduced by transaction costs and expense ratios. The study's contribution is significant for performance evaluation, providing granular understanding of how various factors combine to determine overall performance and demonstrating that the net performance observed by investors reflects the combination of managerial skill, trading costs, and expense structures.

41. Kacperczyk et al. (2005) Marcin Kacperczyk, Clemens Sialm, and Lu Zheng's study, "On the Industry Concentration of Actively Managed Equity Mutual Funds," published in the *Journal of Finance*, examined industry concentration in fund portfolios and its relationship to performance. The authors recognized that managers with superior information might concentrate their holdings in industries where they possess comparative advantage, while less informed managers might diversify across industries to limit potential losses from poor decisions. The methodology involved measuring industry concentration and analyzing its relationship to subsequent performance while controlling for other fund characteristics. The findings revealed that concentrated funds outperform diversified funds, suggesting that informed managers focus investments in industries where they possess informational advantage. The study's contribution is significant for performance evaluation, demonstrating that portfolio concentration is associated with superior performance and that the relationship between diversification and performance is more complex than traditional portfolio theory suggests.
42. Busse et al. (2021) Jeffrey A. Busse, Lei Jiang, and Yuehua Tang's study, "Transaction Costs, Portfolio Characteristics, and Mutual Fund Performance," published in the *Review of Financial Studies*, quantified the impact of transaction costs on mutual fund performance, demonstrating that trading expenses substantially erode gross returns. The authors employed a comprehensive methodology for estimating transaction costs based on actual trading activity, including both explicit

costs (commissions) and implicit costs (market impact and bid-ask spread). The findings revealed that funds with higher turnover experience greater performance drag from transaction costs and that transaction costs explain a significant portion of the performance differential between high-turnover and low-turnover funds. The study's contribution is significant for performance evaluation, providing empirical evidence on the importance of transaction costs as a determinant of net performance and demonstrating that gross returns, which do not reflect trading costs, provide an incomplete picture of managerial ability.

2.7 Conditional and Time-Varying Performance Models

43. Ferson and Schadt (1996) Wayne E. Ferson and Rudi W. Schadt's influential study, "Measuring Fund Strategy and Performance in Changing Economic Conditions," published in the *Journal of Finance*, introduced conditional performance evaluation, which incorporates macroeconomic information to allow betas to vary with economic conditions. The authors recognized that traditional performance evaluation assumes constant betas, an assumption that is violated when managers adjust portfolio risk in response to changing economic conditions. The conditional methodology involves incorporating lagged macroeconomic variables into the performance regression, allowing betas to vary with the state of the economy. The study's contribution is significant for performance evaluation, providing a framework for more accurate performance measurement that accounts for time-varying risk exposures and managerial responses to changing market environments. The conditional approach has been widely adopted in subsequent research, establishing a standard for performance evaluation that recognizes the dynamic nature of investment management.
44. Kacperczyk et al. (2014) Marcin Kacperczyk, Stijn Van Nieuwerburgh, and Laura Veldkamp's study, "Time-Varying Fund Manager Skill," published in the *Journal of Finance*, demonstrated that managerial skill is

not static but varies over time with market conditions, economic cycles, and individual manager circumstances. The authors developed a methodology for estimating time-varying skill, allowing the skill measure to change over time based on market conditions and managerial characteristics. The findings challenged the assumption of constant skill that underlies traditional performance evaluation, revealing that skill varies significantly over time and that managers who perform well in one period may not perform well in another. The study's contribution is significant for performance evaluation, highlighting the importance of evaluating performance across different market regimes and recognizing that skill is not a permanent attribute but rather a time-varying characteristic that may be present only under specific market conditions.

45. Christopherson et al. (1998) Clay J. Christopherson, Wayne E. Ferson, and Andrew L. Turner's study, "Conditional Performance Measurement Using Portfolio Weights: Evidence for Pension Funds," extended conditional performance evaluation by developing frameworks for estimating time-varying alphas and betas. The authors recognized that both risk exposures and performance may vary with economic conditions, requiring a framework that allows both to change over time. The methodology involved estimating time-varying alphas and betas as functions of lagged macroeconomic variables, providing more nuanced assessment of managerial ability that accounts for both risk exposure changes and performance variation across economic states. The study's contribution lies in its development of a comprehensive conditional framework that captures the full range of time-variation in fund behavior, enabling more accurate performance measurement and more reliable identification of managerial skill.
46. Kosowski (2011) Robert Kosowski's study, "Do Mutual Funds Perform When It Matters Most to Investors? Evidence from Business Cycle Regimes," examined fund performance across business cycles, finding that performance varies systematically with economic conditions. The

author recognized that investors care not only about average performance but also about performance during specific economic states, particularly recessions when consumption is constrained. The methodology involved classifying periods by business cycle phase and analyzing performance separately across expansions and recessions. The findings revealed that funds that perform well during recessions exhibit different characteristics than funds that perform well during expansions, with implications for portfolio construction and risk management. The study's contribution is significant for performance evaluation, demonstrating that the conditional nature of performance extends to business cycle regimes and that investors should consider performance across different economic states when evaluating funds.

2.8 Holdings-Based Performance Analysis

47. Cohen et al. (2005) Randolph B. Cohen, Joshua D. Coval, and Lukasz A. Pastor's study, "Judging Fund Managers by the Company They Keep," published in the *Journal of Finance*, developed holdings-based measures of managerial skill by analyzing the stocks managers hold and the extent to which their holdings reveal private information. The authors recognized that if managers possess superior information, their holdings should reflect that information, and the extent to which their holdings deviate from those of other informed investors should predict future performance. The methodology involved comparing fund holdings to the holdings of other informed investors, constructing a measure of "judgment" based on the uniqueness of holdings. The findings revealed that funds holding stocks also held by other informed investors perform better than funds with unique holdings, suggesting that shared information is more reliable. The study's contribution lies in its development of holdings-based skill measures that do not require long return histories, enabling evaluation of funds with limited performance records.

48. Kacperczyk and Seru (2007) Marcin Kacperczyk and Amit Seru's study, "Fund Manager Use of Public Information: New Evidence on Managerial Skills," published in the *Journal of Finance*, examined how fund managers process and respond to public information, finding that managers who respond more quickly to public announcements demonstrate superior performance. The authors recognized that skill may be reflected not only in private information acquisition but also in the speed and accuracy of public information processing. The methodology involved measuring the timeliness of manager responses to public announcements and relating response speed to subsequent performance. The findings revealed that managers who respond more quickly to public information demonstrate superior performance, suggesting that information processing speed is a component of managerial skill. The study's contribution is significant for performance evaluation, expanding the concept of skill to include information processing ability alongside stock-picking and market timing.
49. Jiang et al. (2007) George J. Jiang, Tong Yao, and Tong Yu's study, "Do Mutual Funds Time the Market? Evidence from Portfolio Holdings," published in the *Journal of Banking and Finance*, used holdings data to evaluate market timing ability, finding limited evidence of successful market timing. The authors recognized that returns-based tests of market timing may be biased by the use of derivatives and dynamic trading strategies that are not fully captured by daily returns. The holdings-based methodology involved examining changes in portfolio beta over time and relating those changes to subsequent market movements. The findings revealed that managers who attempt to time the market generally do not generate superior returns from these activities, suggesting that market timing is difficult to execute successfully. The study's contribution lies in its development of holdings-based timing tests that avoid the biases inherent in returns-based approaches, providing more reliable evidence on manager timing ability.

50. Chen et al. (2000) Hsiu-Lang Chen, Narasimhan Jegadeesh, and Russ Wermers's study, "The Value of Active Mutual Fund Management: An Examination of the Stockholdings and Trades of Fund Managers," published in the *Journal of Financial and Quantitative Analysis*, employed holdings-based performance attribution to decompose returns into components attributable to market timing, stock selection, and style exposures. The authors recognized that understanding the sources of value added by active management requires decomposing returns into components associated with different managerial activities. The methodology involved attributing fund returns to market timing, style timing, industry selection, and stock selection components based on holdings and trades. The findings revealed that stock selection is the primary source of value added by active managers, while market timing and style timing do not contribute systematically to performance. The study's contribution is significant for performance evaluation, providing a comprehensive decomposition of active management returns and identifying the specific activities that generate value for investors.

2.9 Behavioural and Alternative Approaches

51. Daniel et al. (1997) Kent Daniel, Mark Grinblatt, Sheridan Titman, and Russ Wermers's study, "Measuring Mutual Fund Performance with Characteristic-Based Benchmarks," published in the *Journal of Finance*, developed characteristic-based performance benchmarks that match funds on size, book-to-market, and momentum characteristics. The authors recognized that traditional benchmarks may be inappropriate for funds whose investment strategies differ from the market portfolio, leading to biased performance conclusions. The methodology involved constructing benchmark portfolios matched to fund holdings based on security characteristics, providing a more precise performance measure that controls for known return anomalies. The findings revealed that characteristic-based measures produce different performance conclusions than traditional factor models, particularly for funds with concentrated

holdings or style tilts. The study's contribution is significant for performance evaluation, providing a benchmark methodology that reduces benchmark bias and more accurately measures managerial skill.

52. Grinblatt et al. (1995) Mark Grinblatt, Sheridan Titman, and Russ Wermers's study, "Momentum Investment Strategies, Portfolio Performance, and Herding: A Study of Mutual Fund Behavior," published in the American Economic Review, examined herding behavior in mutual funds, finding that funds tend to buy past winners and sell past losers, exhibiting momentum strategies that influence performance patterns. The authors recognized that understanding mutual fund performance requires understanding the strategies managers employ and the extent to which they follow each other's trades. The methodology involved analyzing fund trading patterns to identify momentum strategies and herding behavior. The findings revealed that funds exhibit significant herding, particularly in momentum stocks, and that this herding contributes to price pressure effects that affect subsequent returns. The study's contribution lies in its documentation of the behavioral patterns that influence mutual fund performance and its demonstration that manager behavior is not independent but rather influenced by the actions of other market participants.
53. Barber et al. (2016) Brad M. Barber, Xing Huang, and Terrance Odean's study, "Which Factors Matter to Investors? Evidence from Mutual Fund Flows," published in the Review of Financial Studies, investigated investor preferences by examining how fund flows respond to different performance characteristics. The authors recognized that understanding investor behavior is important for performance evaluation because fund flows affect manager incentives and fund operations. The methodology involved analyzing the relationship between fund flows and various fund characteristics, including past returns, expense ratios, turnover, and performance measures. The findings revealed that investors respond asymmetrically to good versus bad performance, showing stronger

reactions to poor performance than to good performance, and exhibit preferences for funds with certain characteristics independent of performance. The study's contribution is significant for performance evaluation, providing insights into how investor preferences shape the mutual fund market and how fund managers respond to flow-driven incentives.

54. Massa et al. (2010) Massimo Massa, Jonathan Reuter, and Eric Zitzewitz's study, "When Should Firms Share Credit with Employees? Evidence from Succession and Compensation in the Mutual Fund Industry," examined managerial incentives and their relationship to performance, exploring how compensation structures, career concerns, and organizational factors influence fund manager behavior and performance outcomes. The authors recognized that understanding performance requires understanding the incentive structures within which managers operate. The methodology involved analyzing the relationship between compensation structures, succession patterns, and subsequent performance. The findings revealed that compensation structures affect manager behavior and that organizational factors, including the timing of succession and the sharing of credit between fund families and individual managers, influence performance outcomes. The study's contribution lies in its demonstration that performance evaluation must consider the organizational context within which managers operate and the incentive structures that shape manager behavior.

2.10 International and Comparative Studies

55. Babalos et al. (2012) Vasilios Babalos, Alexandros Kostakis, and Nikolaos Philippas's study, "Efficiency Evaluation of Greek Equity Funds: A Non-Parametric Approach," applied DEA methodology to the Greek mutual fund market, demonstrating the cross-cultural applicability of non-parametric efficiency measures. The authors recognized that extending performance evaluation research to different markets is important for understanding whether findings generalize across market

contexts. The methodology involved applying DEA to a sample of Greek equity funds and comparing efficiency scores with traditional performance measures. The findings revealed that DEA efficiency scores were consistent with traditional measures while providing additional insights into sources of inefficiency. The study's contribution lies in its demonstration that DEA methodology is applicable in European markets with different regulatory regimes and market structures, supporting the generalizability of non-parametric approaches.

56. Abdelsalam et al. (2014) Omar Abdelsalam, Marwa Elshandidy, and Yaseen S. Al-Janadi's study, "On the Comparative Performance of Socially Responsible and Islamic Mutual Funds," published in the *Journal of Business Ethics*, evaluated socially responsible and Islamic mutual funds, finding that ethical screening does not systematically impair performance. The authors recognized that ethical investment funds present unique evaluation challenges because they incorporate non-financial criteria into investment decisions. The methodology involved comparing the performance of socially responsible and Islamic funds to conventional funds using multiple performance measures. The findings revealed that ethical screening does not systematically impair performance and that these funds exhibit distinct risk-return characteristics relative to conventional funds. The study's contribution is significant for performance evaluation, providing evidence on the performance implications of ethical screening and demonstrating that investors can pursue ethical objectives without necessarily sacrificing financial returns.
57. Basso and Funari (2014) Antonella Basso and Silvana Funari's study, "Socially Responsible Mutual Funds: An Efficiency Comparison Among European Countries," examined cross-country differences in socially responsible fund efficiency across European nations. The authors recognized that regulatory regimes, cultural factors, and market conditions may influence the efficiency of ethical investment vehicles.

The methodology involved applying DEA to samples of socially responsible funds from multiple European countries and comparing efficiency scores across countries. The findings revealed significant cross-country differences in efficiency, suggesting that national factors influence the performance of ethical funds. The study's contribution lies in its demonstration that performance evaluation must consider the country context within which funds operate and that findings from one country may not generalize to others.

58. Ali et al. (2013) Saima Ali, Muhammad Akbar, and Waqas Anwar's study, "Efficiency of Mutual Funds in Pakistan: A Non-Parametric Approach," applied DEA methodology to evaluate mutual fund efficiency in Pakistan, providing evidence from an emerging South Asian market. The authors recognized that extending performance evaluation research to emerging markets is important for understanding whether findings from developed markets generalize to different market contexts. The methodology involved applying DEA to a sample of Pakistani mutual funds and comparing efficiency scores across fund categories. The findings revealed significant variation in efficiency across funds and identified characteristics associated with superior efficiency. The study's contribution lies in its extension of performance evaluation research to an emerging market and its demonstration that DEA methodology is applicable across diverse market contexts.
59. Puopolo (2026) Giovanni Walter Puopolo's comprehensive review, "Mutual Fund Performance: A Review of the Literature," organized the mutual fund performance literature into three perspectives: return-based measures, holdings-based measures, and structural approaches. The review synthesized findings across methodologies, identifying areas of consensus and disagreement in the literature. The return-based perspective encompasses traditional metrics, factor models, and conditional approaches; the holdings-based perspective includes portfolio holdings analysis, characteristic-based benchmarks, and trading behavior;

the structural perspective covers fund characteristics, organizational factors, and market microstructure. The review identified emerging research directions, including the application of machine learning techniques, the role of ESG factors in performance, and the implications of fintech for fund management. The study's contribution is significant as a comprehensive synthesis of the literature, providing researchers with a structured overview of the field and identifying opportunities for future research.

60. Shveta S. et al. (2025) The bibliometric review, "Mapping the Landscape of Mutual Fund Flow and Performance Relationships: A Bibliometric Analysis," analysed 134 articles from the Scopus database spanning 1997-2022, mapping the intellectual structure of research on mutual fund flows and performance relationships. The methodology involved citation analysis, co-citation analysis, and keyword analysis to identify influential works, key authors, and emerging research themes. The findings revealed the evolution of research themes over time, from early focus on performance measurement to more recent emphasis on behavioural factors, institutional characteristics, and market microstructure. The study identified key research clusters including performance persistence, fund characteristics, investor behavior, and market timing. The contribution lies in its systematic mapping of the intellectual structure of the field, providing researchers with a comprehensive overview of the literature and identifying gaps for future research.
61. Aragon and Ferson (2006) George O. Aragon and Wayne E. Ferson's review, "Portfolio Performance Evaluation," published in *Foundations and Trends in Finance*, provided a comprehensive synthesis of portfolio performance evaluation literature, covering traditional measures, factor models, conditional approaches, and emerging methodologies. The review systematically examined the theoretical foundations of performance evaluation, the empirical evidence on fund performance, and the methodological challenges facing researchers. The authors critically

assessed the strengths and limitations of various approaches, providing guidance for researchers seeking to conduct rigorous performance evaluation studies. The study's contribution lies in its comprehensive treatment of the field, serving as an authoritative reference for researchers and practitioners seeking to understand the state of knowledge in performance evaluation.

62. Ferson (2010) Wayne E. Ferson's article, "Investment Performance Evaluation," published in the *Annual Review of Financial Economics*, surveyed the theoretical and empirical literature on investment performance evaluation, providing critical assessment of methodologies and identifying persistent challenges in the field. The review covered traditional measures, factor models, conditional approaches, and performance persistence, with particular attention to the econometric issues that arise in performance evaluation. The author identified key challenges including benchmark selection, data mining, and the difficulty of distinguishing skill from luck, providing recommendations for addressing these challenges in future research. The study's contribution lies in its critical assessment of the literature and its identification of methodological issues that remain unresolved.
63. Fethi and Pasiouras (2010) Meryem Duygun Fethi and Fotios Pasiouras's review, "Assessing Bank Efficiency with Operational Research and Artificial Intelligence Techniques: A Survey," included comprehensive coverage of DEA applications for mutual funds and other financial institutions. The review surveyed the extensive literature applying operational research techniques to financial institution evaluation, identifying best practices and methodological challenges. The authors examined input-output specifications, model orientations, returns to scale assumptions, and treatment of environmental variables, providing guidance for researchers applying DEA to financial institutions. The study's contribution lies in its comprehensive treatment of DEA methodology for financial institution evaluation, serving as a

methodological resource for researchers applying non-parametric techniques to mutual fund performance evaluation.

2.11 Recent and Emerging Studies (2020-2025)

64. Barras et al. (2022) Laurent Barras, Aytex Malkhozov, and and their co-authors' study, "Skill, Scale, and Value Creation in the Mutual Fund Industry," examined the relationship between managerial skill, fund scale, and value creation, finding that skilled managers create value for investors but that scale constraints limit the capacity to deploy skill across large asset bases. The authors developed a theoretical framework for understanding how skill and scale interact to determine value creation, with empirical evidence supporting the presence of decreasing returns to scale in active management. The study's contribution lies in its demonstration that the value created by skilled managers is limited by scale constraints and that investors in large funds may not fully benefit from managerial skill due to capacity constraints.
65. Pástor et al. (2017) Lubos Pástor, Robert F. Stambaugh, and Lucian A. Taylor's study, "Do Funds Make More When They Trade More?" published in the Journal of Finance, investigated the relationship between trading activity and performance, finding that funds with higher turnover do not necessarily generate superior returns. The authors recognized that trading activity reflects both informed trading and unnecessary churning, with the latter generating transaction costs without offsetting benefits. The methodology involved analyzing the relationship between turnover and performance while controlling for fund characteristics and market conditions. The findings revealed that increased trading often reflects higher transaction costs rather than better investment ideas, with the net effect of turnover on performance being negative on average. The study's contribution is significant for performance evaluation, demonstrating that trading activity is not a reliable indicator of skill and that investors should be skeptical of funds with high turnover.

66. Girardi et al. (2021) Giulio Girardi, Kathleen W. Hanley, Stanislava Nikolova, and Laura Pelizzon's study, "Portfolio Similarity and Asset Liquidation in the Insurance Industry," examined systemic risk implications of portfolio similarity, with findings relevant for understanding how correlated holdings among institutional investors may amplify market stress. The authors recognized that understanding institutional investor behavior requires understanding the extent to which portfolios are correlated across investors. The methodology involved measuring portfolio similarity across insurance companies and analyzing the implications for asset liquidation in stress scenarios. The study's contribution lies in its demonstration that correlated holdings among institutional investors can create systemic risk, with implications for understanding mutual fund behavior during market stress.
67. Athens University of Economics (2020) The Athens University of Economics study, "Performance Evaluation of Mutual Funds: A Comparative Analysis of Simple and Complex Measures," compared simple and complex performance measures, finding that sophisticated metrics provide information not captured by simpler measures. The authors recognized that the proliferation of performance measures creates confusion for investors and researchers seeking to identify the most informative metrics. The methodology involved comparing the information content of various performance measures and examining their consistency in ranking funds. The findings revealed that while simple measures capture much of the information in complex measures, sophisticated metrics provide additional insights that can be valuable for investment decisions. The study's contribution lies in its demonstration that multifaceted evaluation frameworks provide more complete information than reliance on any single measure.

68. ICICI Direct (2022) ICICI Direct's practitioner resource, "Equity Mutual Funds: Evaluation and Selection," explained risk metrics including beta and standard deviation, providing accessible guidance for retail investors on interpreting performance measures. The resource translated academic performance measures into accessible concepts, demonstrating how theoretical frameworks can be applied in practice. The contribution lies in its demonstration of the practical application of performance evaluation frameworks and its recognition that investor education is essential for effective fund selection.
69. Economic Times (2024) The Economic Times article, "Decoding 9 Mutual Fund Ratios Every Investor Should Know," decoded nine mutual fund ratios, translating academic performance measures into accessible concepts for retail investors. The article explained the interpretation and application of Sharpe Ratio, Treynor Ratio, Jensen's Alpha, Sortino Ratio, Information Ratio, Beta, Standard Deviation, Expense Ratio, and Alpha, providing practical guidance for fund selection. The contribution lies in its demonstration of the practical relevance of academic performance evaluation frameworks and its role in investor education.
70. Branda and Kopa (2014) Martin Branda and Miloš Kopa's study, "On Relations Between DEA-Risk Models and Stochastic Dominance Efficiency Tests," published in the European Journal of Operational Research, established theoretical relationships between DEA-risk models and stochastic dominance efficiency tests, contributing to the methodological integration of parametric and non-parametric approaches. The authors demonstrated that DEA-risk models are related to stochastic dominance concepts, providing a theoretical foundation for integrating these approaches. The study's contribution lies in its demonstration of the theoretical connections between different performance evaluation methodologies, enabling more integrated and comprehensive evaluation frameworks.

71. Andreu et al. (2014) Laura Andreu, José Luis Sarto, and Luis Vicente's study, "Efficiency of the Strategic Style of Pension Funds: An Application of the Slacks-Based DEA Measure," applied slacks-based DEA measures to evaluate pension fund strategic style efficiency. The authors recognized that evaluating institutional investment vehicles requires considering both return generation and style consistency. The methodology involved applying slacks-based DEA to evaluate how effectively pension funds implement their stated investment strategies. The study's contribution lies in its demonstration of the versatility of non-parametric methods for evaluating institutional investment vehicles beyond mutual funds and its extension of DEA applications to consider strategic style efficiency.

Chapter 3 Research Methodology

3. Introduction

Research methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises the principles, procedures, and techniques employed to collect, analyse, and interpret data in pursuit of research objectives. A well-defined methodology ensures that findings are valid, reliable, replicable, and defensible against scholarly scrutiny.

This study evaluates the risk-adjusted performance of large cap and mid cap mutual funds in India over the five-year period 2021–2025. Given the quantitative nature of the data (quarterly returns, volatility measures, beta coefficients, and derived performance metrics) and the objective of comparing funds against benchmarks and each other, a quantitative, ex-post, longitudinal research design is most appropriate. This section elaborates on the philosophical assumptions, logical structure, and operational framework that guide the empirical investigation.

3.1 Statement of Problem

The Indian mutual fund industry has witnessed remarkable growth, offering investors a wide array of schemes across asset classes. However, retail investors face persistent and significant challenges that undermine their ability to achieve optimal returns. One of the primary difficulties lies in scheme selection. Despite the availability of quantitative data such as historical returns, volatility, and fund ratings, investors struggle to select the most suitable mutual fund scheme due to the proliferation of funds within the same category with divergent performance trajectories, and because past performance is often misleading. Investors lack a reliable framework to evaluate which fund's risk-adjusted returns are likely to persist. Compounding this is the uncertainty regarding profit booking and loss realisation. Investors face acute difficulty in determining the appropriate timing to book profits or exit a loss-making position, as market cycles are unpredictable and behavioural biases such as loss aversion and recency bias lead to suboptimal decisions such as selling at market bottoms or holding onto underperformers for too long. No standardised guidance exists for when a particular scheme has reached its fair value or when a loss should be accepted as irreversible.

Further ambiguity surrounds switching decisions. Investors are uncertain about when and why to switch from one scheme to another, even across different asset classes such as equity to debt. Switching involves complex trade-offs including exit loads, tax implications, transaction costs, and the risk of missing future recoveries. Funds that have underperformed for a period may subsequently outperform, while consistent past winners may suddenly reverse. The lack of empirical decision rules leads to either excessive churning or inertia. Adding to these difficulties are the recent regulatory changes in the mutual fund industry. Scheme re-categorisation by SEBI has altered fund mandates and the comparability of historical data. The removal of Dividend Distribution Tax (DDT) has shifted the tax burden to investors, changing post-tax return calculations. The introduction of stamp duty on mutual fund purchases has increased transaction costs, and changes in total expense ratio (TER) regulations affect net returns. Investors have not fully assimilated these changes into their decision-making processes, and there is a lack of updated frameworks that incorporate these regulatory shifts into fund selection, performance comparison, and switching strategies.

The consequence of these difficulties is that retail investors often achieve suboptimal outcomes – lower realised returns, higher tax liabilities, unnecessary transaction costs, and psychological distress – frequently underperforming the very benchmarks that passive alternatives would have delivered at lower cost. While existing literature addresses mutual fund performance evaluation using metrics such as Sharpe ratio, Treynor ratio, Jensen's alpha, and Fama decomposition, few studies provide an integrated, practical decision-making framework that simultaneously addresses selection, timing, switching, and regulatory adaptation, particularly in the Indian context following recent regulatory changes. Therefore, this study seeks to develop and validate a systematic, empirically grounded framework to assist retail investors in making informed choices across these dimensions.

3.2 Research Objectives

1. To measure the absolute and risk-adjusted returns of selected large cap and mid cap mutual funds over the five-year period 2021–2025.
2. To evaluate fund manager skill through Jensen's Alpha as a measure of excess return generated over and above the expected return predicted by the Capital Asset Pricing Model (CAPM).
3. To evaluate fund manager skill through Fama's Net Selectivity as a measure of stock selection ability after removing the effects of market risk and portfolio diversification.
4. To compare the performance of selected large cap and mid cap mutual funds against their respective benchmarks (Nifty 100 and Nifty Midcap) – and to rank the schemes based on risk-adjusted performance measures, including Sharpe ratio, Treynor ratio, Jensen's alpha, and Fama's net selectivity.
5. To study the impact of portfolio valuation (measured by price-to-earnings ratio) on the risk-adjusted returns of selected mutual funds.

3.3 Research Design

The study adopted a quantitative, ex-post, longitudinal research design. This design was selected for three primary reasons. First, the ex-post nature of the design allows the study to evaluate historical, already-realized returns, making it a retrospective analysis suitable for performance evaluation. Second, the longitudinal framework, with a five-year time horizon from 2021 to 2025, captures multiple market cycles including post-pandemic rallies in 2021 and 2023, corrections in 2022, consolidation in 2024, and volatile periods in 2025. Third, the comparative structure of the design enables cross-sectional comparison across funds and against benchmarks. The research approach adopted is descriptive-analytical, with inferential statistical measures applied to describe risk-return characteristics.

3.4 Scope of the study

The scope of this study is confined to the evaluation of 20 actively managed equity mutual funds in India, comprising 10 large cap funds and 10 mid cap funds, over a five-year period from 2021 to 2025. The study exclusively uses secondary quantitative data, including quarterly and annualised returns, volatility measures, beta coefficients, and risk-adjusted performance metrics such as the Sharpe ratio, Treynor ratio, Jensen's alpha, and Fama decomposition (net selectivity and diversification component). The performance of each fund is compared against its respective benchmark—the Nifty 100 for large cap funds and the Nifty Midcap for mid cap funds.

3.5 Sampling Method

The study adopted a purposive sampling technique, which is a non-probability sampling method wherein subjects are selected based on specific characteristics aligned with the research objectives. From the universe of actively managed open-ended equity mutual funds in India, the top 10 large cap schemes and the top 10 mid cap schemes were selected using the criterion of highest Assets Under Management (AUM) as of 1st December 2020. This date was chosen as the cut-off to ensure that the sample represented the largest and most widely held funds prior to the commencement of the study period (2021–2025). The use of AUM as the selection criterion is justified because larger funds have greater investor base, market significance, and operational stability, making their performance analysis more relevant for the majority of retail investors. Purposive sampling was preferred over random sampling as the objective was not to generalise to the entire population of mutual funds but to focus on the most influential schemes within each category, thereby enhancing the practical utility of the findings. The final sample comprised 20 funds, which were then subjected to quantitative performance evaluation over the subsequent five-year period.

3.6 Sampling Units

The sampling units for this study are the individual mutual fund schemes selected from the large cap and mid cap categories. Specifically, the sample comprises 20 schemes - 10 large cap funds and 10 mid cap funds - chosen based on the highest Assets Under Management (AUM) as of 1st December 2020.

Large Cap Funds (10):

- ICICI Prudential Large Cap
- SBI Large Cap
- Nippon India Large Cap
- Mirae Asset Large Cap
- HDFC Large Cap
- Axis Large Cap
- Aditya Birla Sun Life Large Cap
- Canara Robeco Large Cap
- UTI Large Cap
- Kotak Large Cap

Mid Cap Funds (10):

- HDFC Mid Cap
- Kotak Midcap
- Nippon India Growth Mid Cap
- Motilal Oswal Midcap
- Axis Midcap
- SBI Midcap
- DSP Midcap
- Mirae Asset Midcap

- Edelweiss Mid Cap
- Sundaram Mid Cap

3.7 Data Type & Source

The study exclusively uses secondary quantitative data. The primary source of data is the Association of Mutual Funds in India (AMFI) website, from which historical quarterly returns, net asset values (NAVs), and benchmark index returns were collected. Additional data on risk-free rates was obtained from publicly available sources such as government treasury bill rates. The data spans the five-year period from 2021 to 2025, covering quarterly and annualised performance metrics for the selected 20 mutual fund schemes.

3.8 Analytical Framework

The analytical framework of this study consists of a structured, multi-step process designed to evaluate the performance of selected large cap and mid cap mutual funds. The framework progresses from basic return computation to advanced risk-adjusted performance metrics, and finally to valuation-based performance categorisation. Each step is detailed below.

3.8.1 Quarterly and Annualised Returns

The study commenced with the collection of quarterly return data for each of the 20 mutual fund schemes (10 large cap, 10 mid cap) and their respective benchmarks (Nifty 100 and Nifty Midcap) for the period 2021–2025. Quarterly returns were directly obtained from fund fact sheets and AMFI sources.

Annualised returns were then computed using the geometric mean method to accurately reflect compounded growth over the year. However, for volatility and certain risk metrics, daily NAV returns were annualised using the standard approach:

$$R_{annual} = \left(\prod_{i=1}^4 (1 + R_{q,i}) \right) - 1$$

Where $R_{q,i}$ is the return for quarter i .

3.8.2 Volatility (Standard Deviation)

Volatility, representing total risk, was computed as the annualised standard deviation of daily returns. For each scheme, daily NAV returns were first calculated, followed by the daily standard deviation, which was then annualised using the square root of time rule:

$$\sigma(annual) = \sigma(daily) \times \sqrt{252}$$

3.8.3 Beta (Systematic Risk)

Beta measures a fund's sensitivity to benchmark movements:

$$\beta = \frac{Cov(R_f, R_m)}{Var(R_m)}$$

Where:

- R_f = Fund return
- R_m = Benchmark (market) return

Interpretation:

- $\beta = 1.00$: Fund moves in line with the market
- $\beta > 1.00$: Fund amplifies market movements
- $\beta < 1.00$: Fund dampens market movements (defensive)

3.8.4 Sharpe Ratio

The Sharpe Ratio measures excess return per unit of total risk (volatility):

$$Sharpe = \frac{R_p - R_f}{\sigma_p}$$

Where:

- R_p = Portfolio return

- R_f = Risk-free rate
- σ_p = Portfolio standard deviation

Higher Sharpe Ratio indicates better risk-adjusted performance. A negative ratio suggests the fund underperformed the risk-free rate.

3.8.5 Treynor Ratio

The Treynor Ratio measures excess return per unit of systematic risk (beta):

$$Treynor = \frac{R_p - R_f}{\beta_p}$$

While Sharpe uses total risk, Treynor isolates market risk. Useful for comparing funds within the same category.

3.8.6 Jensen's Alpha (Jensen's Measure)

Jensen's Alpha measures the excess return generated beyond what the CAPM would predict:

$$\alpha = R_p - [R_f + \beta_p(R_m - R_f)]$$

- $\alpha > 0$: Fund manager added value through stock selection or timing
- $\alpha = 0$: Fund performed exactly as expected for its risk level
- $\alpha < 0$: Fund underperformed given its systematic risk exposure

3.8.7 Fama Decomposition (Net Selectivity)

Fama's model decomposes a fund's total return into three components:

$$R_p = R_f + \underbrace{\beta(R_m - R_f)}_{\text{Risk premium}} + \underbrace{(R_p - R_f) - \beta(R_m - R_f)}_{\text{Net Selectivity}}$$

Net selectivity measures the value added purely through stock selection, after removing:

- The risk-free return

- The market risk premium (systematic return)
- Diversification effects
- Positive net selectivity = Manager's stock picks added value
- Negative net selectivity = Manager's stock picks detracted from value

The diversification component (reported separately) captures the benefit of holding a well-diversified portfolio.

3.8.8 P/E Ratio-Based Categorisation and Performance Analysis

To examine whether fund valuation (proxied by the P/E ratio of the top 10 holdings) influences subsequent performance, the following procedure was adopted:

1. **Data collection:** P/E ratios of the top 10 holdings for each fund were obtained for the years 2020 through 2025 (the prior year's P/E used as a predictor).
2. **Categorisation:** For each year, funds were classified into three valuation groups based on their P/E ranking within the peer set:
 - **Low P/E** (cheapest): Funds with P/E ranks 8–10 (or bottom tertile)
 - **Moderate P/E** (middle): Funds with P/E ranks 4–7 (middle tertile)
 - **High P/E** (expensive): Funds with P/E ranks 1–3 (top tertile)

3.9 Limitations of the Study

- **Survivorship bias:** Only funds that survived the entire five-year period (2021–2025) were included in the analysis. Funds that were merged, liquidated, or wound up during this period are absent, which may lead to an overestimation of average fund performance.
- **Short time horizon:** The five-year study period may not capture full market cycles. A longer duration of ten years or more would provide a more robust assessment of fund performance and enhance the reliability of conclusions.
- **Constant risk-free rate assumption:** The risk-free rate is assumed to be constant within each calendar year. This does not account for intra-year

variations in treasury bill rates or changes in monetary policy, potentially affecting the precision of Sharpe ratio, Treynor ratio, and Jensen's alpha calculations.

- **No separate expense ratio adjustment:** Although the reported returns are post-expense (net of fund management fees), the differential impact of varying expense ratios across funds on net performance is not analysed independently. This may obscure the extent to which performance differences arise from fee structures rather than fund manager skill.

Chapter 4 Data Analysis & Interpretation

4.0 Introduction

This chapter presents a comprehensive analysis of the performance of selected mutual fund schemes categorized into Large-Cap and Mid-Cap funds. The primary objective of this analysis is to evaluate and compare the risk-adjusted performance of the selected schemes over the study period from 2021 to 2025. The chapter is divided into two major sections, namely Large-Cap Funds and Mid-Cap Funds, to facilitate a detailed and systematic examination of their performance characteristics.

The analysis begins with an assessment of quarterly returns and annual returns of the selected schemes, providing insights into their growth patterns and consistency over time. To understand the risk associated with each scheme, measures such as volatility and beta have been calculated and analysed.

Further, the performance of the schemes has been evaluated using various risk-adjusted performance measures. These include the Sharpe Ratio, which measures excess return per unit of total risk; the Treynor Ratio, which evaluates returns relative to systematic risk; and Jensen's Alpha, which assesses the ability of fund managers to generate returns above the expected market return. Year-wise values of these measures have been computed and corresponding ranks have been assigned to identify the relative performance of the schemes across different years.

In addition, Fama's Net Selectivity Measure has been employed to evaluate the stock selection skills of fund managers by isolating returns attributable to superior investment decisions. Year-wise rankings based on Fama's measure have also been presented to facilitate comparative analysis.

To examine the influence of market valuation on fund performance, the schemes have been classified into Low P/E, Moderate P/E, and High P/E valuation categories. The performance metrics under each valuation category have been analyzed on a year-wise basis for the period 2021–2025. This classification enables an assessment of how different market valuation environments affect fund performance and risk-adjusted returns.

Finally, average values of all performance measures have been computed for each scheme across the five-year period. Comparative analyses have also been carried out

based on valuation categories to identify overall trends and patterns. The findings presented in this chapter provide empirical evidence regarding the relative performance, risk characteristics, and investment efficiency of the selected Large-Cap and Mid-Cap mutual fund schemes, thereby forming the basis for the conclusions and recommendations presented in subsequent chapters.

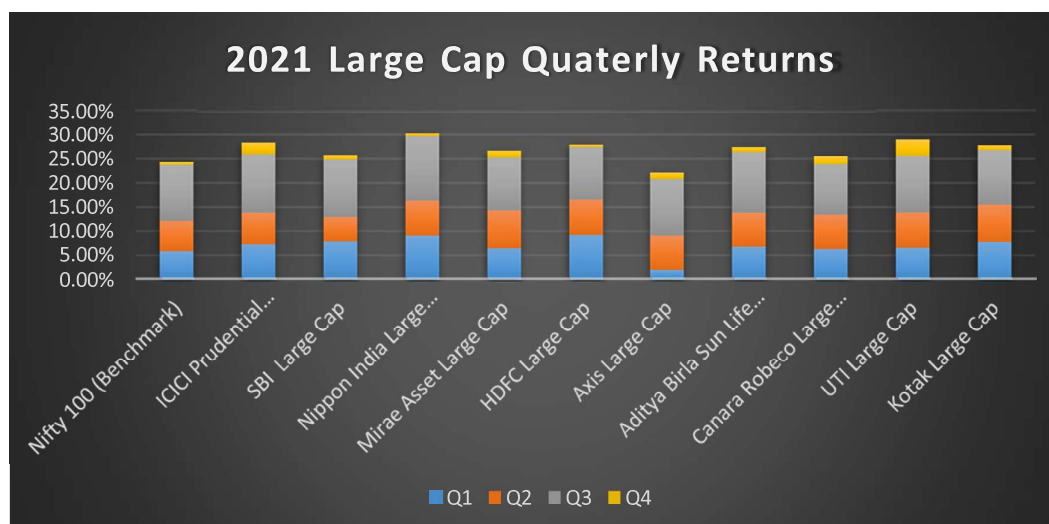
4.1 Large Cap Schemes

4.1.1 Quarterly Returns of Large Cap Schemes

Table 4.1 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2021

Name of Schemes	2021			
	Q1	Q2	Q3	Q4
Nifty 100 (Benchmark)	6.05%	6.24%	11.62%	0.54%
ICICI Prudential Large Cap	7.51%	6.50%	12.00%	2.49%
SBI Large Cap	8.02%	5.12%	11.87%	0.85%
Nippon India Large Cap	9.29%	7.20%	13.40%	0.53%
Mirae Asset Large Cap	6.68%	7.82%	10.94%	1.31%
HDFC Large Cap	9.39%	7.35%	10.85%	0.41%
Axis Large Cap	2.16%	7.12%	11.67%	1.34%
Aditya Birla Sun Life Large Cap	6.98%	7.00%	12.56%	1.03%
Canara Robeco Large Cap	6.51%	7.09%	10.40%	1.66%
UTI Large Cap	6.75%	7.33%	11.61%	3.40%
Kotak Large Cap	7.97%	7.70%	11.21%	1.02%
Highest	9.39%	7.82%	13.40%	3.40%
Lowest	2.16%	5.12%	10.40%	0.41%

Figure 4.1 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2021



Interpretation

The year 2021 was a story of two halves. The table shows the quarterly returns of ten large cap schemes against the Nifty 100 benchmark. One can clearly feel the change in market mood as the year moved forward.

First Three Quarters: A Strong Run

The first three quarters saw solid growth. The Nifty 100 benchmark rose from 6.05% in Q1 to 11.62% in Q3. Most funds performed well during this period. Some managed to do even better.

HDFC Large Cap and Nippon India Large Cap started the year with a bang. They posted returns of 9.39% and 9.29% in Q1 itself. This gave their investors a nice early advantage. However, not every fund joined the party. Axis Large Cap struggled in Q1 with just 2.16%. This was quite a contrast to the broader market energy.

As the year progressed into Q2 and Q3, the returns started to look more similar. This is common in large cap investing. It is tough to beat the index by a huge margin. Still, Mirae Asset Large Cap found its footing in Q2 with a return of 7.82%. Nippon India Large Cap continued its strong show. It delivered 13.40% in Q3. That was the highest quarterly return among all schemes in this list.

Fourth Quarter: The Market Takes a Pause

This sudden slowdown tested the fund managers' skills. Two schemes managed to provide better protection to capital. UTI Large Cap stood out with a return of 3.40%. This was much higher than the benchmark and all other peers. It seemed the fund manager was positioned more safely. ICICI Prudential Large Cap also did well in Q4 with 2.49%.

On the other hand, some of the earlier star performers lost steam. HDFC Large Cap ended the year with a flat 0.41% in Q4. Nippon India Large Cap also settled at 0.53%, almost matching the benchmark. This suggests a particular pattern. Some funds are very good at catching the upside rally. But they may be equally sensitive when the market gets tired or rotates into different sectors.

Final Observation

The 2021 data highlight an important point about large cap funds. It is the trade-off between high returns and steady returns. Nippon India offered great highs. But it also came back to the average level quickly. In comparison, funds like Canara Robeco and Mirae Asset did not top the charts in any single quarter. However, their quarterly journey looked smoother and more predictable.

Table 4.2 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2022

Name of Schemes	2022			
	Q1	Q2	Q3	Q4
Nifty 100 (Benchmark)	0.03%	-10.93%	7.94%	6.65%
ICICI Prudential Large Cap	0.37%	-8.76%	7.84%	8.05%
SBI Large Cap	-1.43%	-8.03%	7.70%	6.74%
Nippon India Large Cap	2.20%	-8.56%	11.00%	6.34%
Mirae Asset Large Cap	-2.31%	-9.04%	7.00%	5.81%
HDFC Large Cap	2.06%	-7.86%	7.43%	9.13%
Axis Large Cap	-3.54%	-13.13%	9.59%	2.52%
Aditya Birla Sun Life Large Cap	-0.88%	-9.70%	8.57%	6.48%
Canara Robeco Large Cap	-2.25%	-9.81%	8.22%	6.14%
UTI Large Cap	-2.45%	-10.93%	8.44%	4.21%
Kotak Large Cap	-1.73%	-9.26%	7.91%	6.63%
Highest	2.20%	-7.86%	11.00%	9.13%
Lowest	-3.54%	-13.13%	7.00%	2.52%

Figure 4.2 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2022



Interpretation

If 2021 was a year of smooth sailing, 2022 was a year of storm and recovery. The table shows a market that fell sharply in the middle of the year. It then picked itself up and climbed back by the year end. This kind of movement is a true test for any large cap fund manager.

Q1: A Nervous Start

The year began with a lot of uncertainty. The Nifty 100 benchmark barely moved. It registered a flat 0.03% return. Most funds also hovered around the same line. Nippon India Large Cap managed to stay a little ahead with 2.20%. HDFC Large Cap was not far behind at 2.06%. But several schemes slipped into the red right away. Axis Large Cap fell by 3.54%. UTI Large Cap and Mirae Asset Large Cap also started the year on a negative note. This Q1 performance showed a clear divide. Some funds were holding steady. Others were already feeling the heat of the coming storm.

Q2: The Market Correction Bites

The second quarter of 2022 was brutal. The Nifty 100 benchmark dropped by a significant 10.93%. Every single scheme in the table posted a negative return. It was a period where protecting capital became more important than making gains.

In such a falling market, the aim is to fall less than the benchmark. SBI Large Cap and HDFC Large Cap managed this to some extent. They fell by 8.03% and 7.86% respectively. This was better than the index decline. ICICI Prudential Large Cap also

cushioned the blow with a drop of 8.76%. However, Axis Large Cap suffered a deep cut. It fell by 13.13%. This was a full two percentage points worse than the benchmark. UTI Large Cap also fell in line with the index at 10.93%. The Q2 numbers clearly separated the resilient funds from the fragile ones.

Q3: A Sharp Recovery Rally

Markets often surprise on the upside after a deep fall. Q3 of 2022 did exactly that. The Nifty 100 bounced back with a 7.94% return. It was a quarter of relief for investors. Nippon India Large Cap stood out once again. It delivered a strong 11.00% return. This shows the fund tends to capture the upside momentum quickly. Axis Large Cap also made a decent recovery with 9.59%. But one must note that this gain came from a lower base after the heavy Q2 fall. Aditya Birla Sun Life and UTI Large Cap also did well. They posted returns of 8.57% and 8.44% respectively.

Q4: Finishing on a Positive Note

The final quarter of the year continued the upward trend. The benchmark gained another 6.65%. By this time, investor confidence had returned. HDFC Large Cap closed the year with a bang. It delivered a solid 9.13% return in Q4. This was the best quarterly performance among all schemes for this period. ICICI Prudential Large Cap also finished strong with 8.05%. These two funds ensured that their investors ended the year on a happy note.

On the flip side, Axis Large Cap could not sustain the Q3 recovery. It fell back to a modest 2.52% in Q4. UTI Large Cap also underperformed the benchmark in the final stretch with just 4.21%.

Final Observation

The 2022 data tells a clear story about handling volatility. HDFC Large Cap and ICICI Prudential Large Cap showed better composure. They fell less during the correction and rose well during the recovery. Nippon India Large Cap continued to be a momentum player. It captured the upside very well.

Axis Large Cap had a year to forget. High volatility and deep cuts hurt its overall standing. For an investor looking at 2022, the lesson is clear. A fund that can limit the damage in a bad market is just as important as one that races ahead in a good market.

Table 4.3 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2023

Name of Schemes	2023			
	Q1	Q2	Q3	Q4
Nifty 100 (Benchmark)	-6.05%	11.61%	1.40%	12.53%
ICICI Prudential Large Cap	-3.05%	10.89%	5.14%	12.82%
SBI Large Cap	-2.86%	13.47%	2.04%	9.20%
Nippon India Large Cap	-2.41%	14.69%	5.86%	11.17%
Mirae Asset Large Cap	-4.45%	10.69%	2.69%	8.41%
HDFC Large Cap	-2.35%	11.89%	4.96%	13.36%
Axis Large Cap	-4.57%	10.60%	1.39%	10.37%
Aditya Birla Sun Life Large Cap	-3.97%	12.25%	3.49%	10.44%
Canara Robeco Large Cap	-3.03%	12.21%	2.14%	10.83%
UTI Large Cap	-4.37%	11.51%	3.37%	9.99%
Kotak Large Cap	-3.16%	11.12%	3.29%	11.32%
Highest	-2.35%	14.69%	5.86%	13.36%
Lowest	-6.05%	10.60%	1.39%	8.41%

Figure 4.3 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2023



Interpretation

The year 2023 was a roller coaster ride. It started with a dip. Then came a sharp recovery. A quiet middle gave way to a roaring finish. The table captures this full cycle of market emotions.

Q1: A Wobbly Beginning

The year opened on a weak note. The Nifty 100 benchmark fell by 6.05%. Global cues and interest rate fears weighed on sentiment. Almost every fund in the list opened in the red.

However, some funds managed to limit the damage. HDFC Large Cap fell the least with a drop of just 2.35%. Nippon India Large Cap was close behind at negative 2.41%. SBI Large Cap also held up well with a decline of 2.86%. These three funds showed good defensive traits.

On the other end, Axis Large Cap slipped by 4.57%. Mirae Asset Large Cap fell by 4.45%. UTI Large Cap also lost 4.37%. They fell less than the benchmark but were still on the weaker side of the peer group.

Q2: The Market Roars Back

Quarter two brought a complete change in mood. The Nifty 100 surged by 11.61%. It was one of the strongest quarterly rebounds in recent times. Investor money flowed back with confidence.

Nippon India Large Cap delivered a blockbuster return of 14.69%. This was the highest among all schemes. SBI Large Cap was not far behind with 13.47%. Both funds captured the upside momentum with great skill. Aditya Birla Sun Life and Canara Robeco also did well with returns above 12%.

Even the funds that were steady in Q1 participated in this rally. HDFC Large Cap gained 11.89%. Kotak Large Cap gained 11.12%. The only slight disappointment was Axis Large Cap. It managed 10.60%, which was decent but a touch below the benchmark pace.

Q3: A Period of Consolidation

After such a strong run, markets often take a breather. That is exactly what happened in Q3. The Nifty 100 benchmark moved up by just 1.40%. Most funds mirrored this sideways movement. A few schemes managed to grind out some extra returns. Nippon India Large Cap stood out again with 5.86%. This was an impressive number in a flat market. ICICI Prudential Large Cap also did well with 5.14%. HDFC Large Cap posted

a solid 4.96%. These returns suggest the fund managers were able to find pockets of growth even when the broader index was sleepy.

In contrast, Axis Large Cap returned just 1.39%. It almost exactly matched the benchmark. SBI Large Cap also cooled off to 2.04%. The momentum of Q2 did not carry over for these funds in Q3.

Q4: A Grand Finale

The last quarter of 2023 was a gift for equity investors. The Nifty 100 benchmark shot up by a remarkable 12.53%. It was a broad-based rally driven by strong domestic flows and a stable political outlook.

HDFC Large Cap led the charge with a stellar 13.36% return. It capped off a year of consistent performance. ICICI Prudential Large Cap followed closely with 12.82%. Kotak Large Cap and Nippon India Large Cap also delivered double-digit gains, comfortably above 11%.

A few schemes lagged behind in this final sprint. Mirae Asset Large Cap managed only 8.41%. SBI Large Cap settled at 9.20%. UTI Large Cap also stayed below 10% with 9.99%. While these returns were positive, they did not fully capture the strength of the year-end rally.

Final Observation

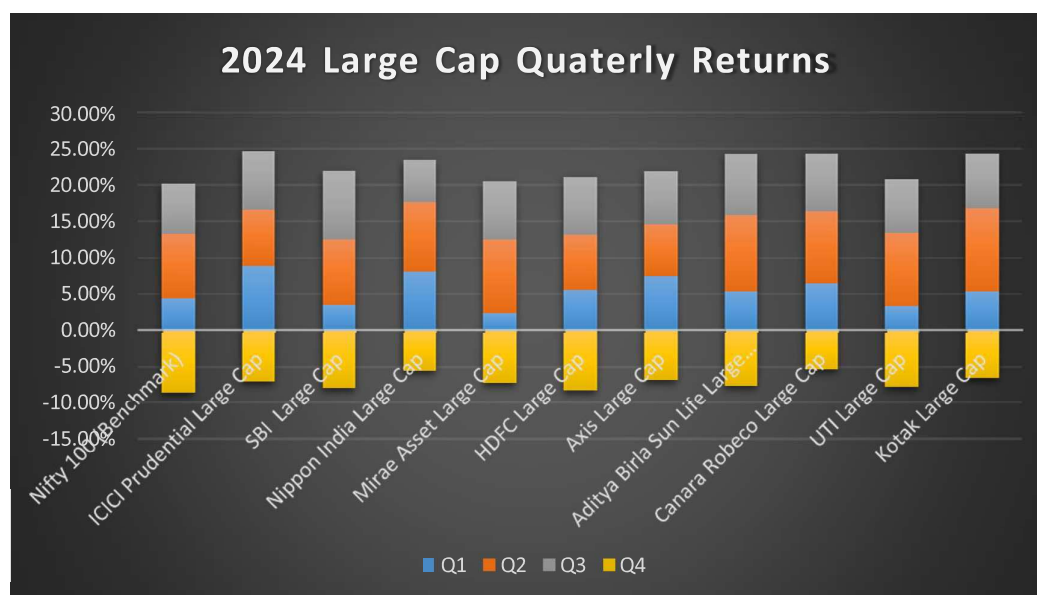
The 2023 data reveal a few clear patterns. Nippon India Large Cap and HDFC Large Cap were the standout performers. They protected capital well in the downturn and captured gains effectively in the upswings. ICICI Prudential Large Cap also showed strong consistency, especially in the second half of the year.

On the flip side, Mirae Asset Large Cap and Axis Large Cap appeared to struggle with timing. Their returns were mostly on the lower side across all four quarters. For an investor, 2023 reinforced an important lesson. A fund that performs well across different market phases is often a better long-term companion than one that shines only during specific rallies.

Table 4.4 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2024

Name of Schemes	2024			
	Q1	Q2	Q3	Q4
Nifty 100 (Benchmark)	4.50%	8.87%	6.88%	-8.52%
ICICI Prudential Large Cap	8.97%	7.74%	8.04%	-6.91%
SBI Large Cap	3.59%	9.04%	9.38%	-7.85%
Nippon India Large Cap	8.17%	9.58%	5.75%	-5.46%
Mirae Asset Large Cap	2.47%	10.15%	7.94%	-7.14%
HDFC Large Cap	5.63%	7.62%	7.91%	-8.18%
Axis Large Cap	7.54%	7.15%	7.30%	-6.72%
Aditya Birla Sun Life Large Cap	5.45%	10.50%	8.38%	-7.54%
Canara Robeco Large Cap	6.52%	9.98%	7.87%	-5.25%
UTI Large Cap	3.40%	10.09%	7.34%	-7.68%
Kotak Large Cap	5.43%	11.48%	7.44%	-6.45%
Highest	8.97%	11.48%	9.38%	-5.25%
Lowest	2.47%	7.15%	5.75%	-8.52%

Figure 4.4 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2024



Interpretation

The year 2024 started with promise. It built up steadily over three quarters. Then came a sharp jolt at the very end. The table shows how the ten large cap schemes navigated this tricky year.

Q1: A Steady Start

The year began on a positive note. The Nifty 100 benchmark gained a decent 4.50%. Most funds managed to stay in the green. ICICI Prudential Large Cap had a flying start. It delivered an impressive 8.97% return. This was almost double the benchmark figure. Nippon India Large Cap was not far behind with 8.17%. Axis Large Cap also surprised on the upside with 7.54%.

A few funds lagged behind in this opening quarter. Mirae Asset Large Cap managed only 2.47%. UTI Large Cap returned a modest 3.40%. SBI Large Cap was also on the lower side with 3.59%. The first quarter showed a wide gap between the best and the rest.

Q2: Momentum Builds Further

Quarter two saw the market gather more steam. The Nifty 100 rose by 8.87%. It was a strong broad-based rally. Kotak Large Cap emerged as the star of Q2. It posted a handsome 11.48% return. This was the highest among all schemes. Aditya Birla Sun Life Large Cap and Mirae Asset Large Cap also crossed the 10% mark. They delivered 10.50% and 10.15% respectively. UTI Large Cap made a good comeback with 10.09%. On the other hand, Axis Large Cap and HDFC Large Cap fell a bit short. They returned 7.15% and 7.62% respectively. They still made money for investors. But they did not fully catch the market's upward wave.

Q3: A Quiet but Positive Period

The third quarter was less exciting but still positive. The benchmark added another 6.88%. The market seemed to be catching its breath. SBI Large Cap stood tall in Q3. It delivered a strong 9.38% return. This was a solid outperformance in a relatively calm market. ICICI Prudential Large Cap and Aditya Birla Sun Life Large Cap also did well with returns above 8%. Nippon India Large Cap slowed down considerably. It managed only 5.75%. This was below the benchmark. After a strong first half, the fund appeared to lose some momentum.

Q4: The Year-End Shock

The final quarter of 2024 turned everything upside down. The Nifty 100 benchmark fell sharply by 8.52%. It was a sudden and painful correction. Every single fund in the table posted a negative return.

In such a falling market, the goal is to fall less than the index. A few funds managed to do this. Canara Robeco Large Cap performed the best in this tough phase. It declined by just 5.25%. This was significantly better than the benchmark fall. Nippon India Large Cap also held up well with a drop of 5.46%. Kotak Large Cap and Axis Large Cap limited their losses to around 6.5%.

Some funds could not cushion the blow effectively. HDFC Large Cap fell by 8.18%. SBI Large Cap dropped by 7.85%. UTI Large Cap also slipped by 7.68%. These funds almost matched or slightly exceeded the benchmark decline.

Final Observation

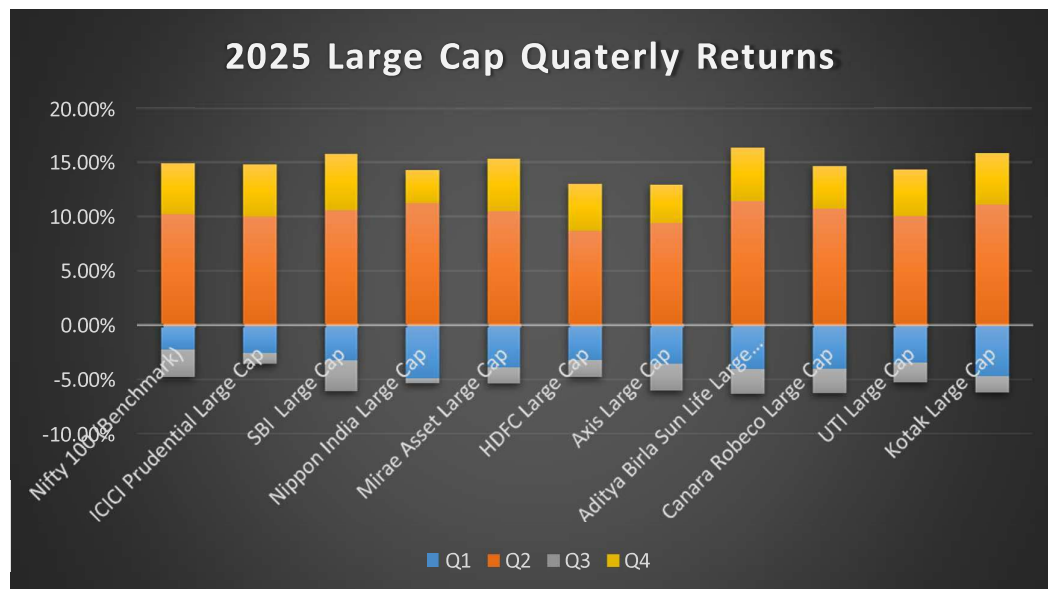
The 2024 data present a mixed bag. ICICI Prudential Large Cap started the year with a bang but cooled off towards the end. Kotak Large Cap and Aditya Birla Sun Life Large Cap showed strong mid-year performance. The real test of 2024 was Q4. Funds like Canara Robeco Large Cap and Nippon India Large Cap passed this test better than others. They protected capital when the market turned hostile. This year reminds an investor of an old truth. Making money in a rising market is easier. Saving money in a falling market is the real skill. The funds that did both deserve a closer look.

Table 4.5 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2025

Name of Schemes	2025			
	Q1	Q2	Q3	Q4
Nifty 100 (Benchmark)	-2.19%	10.30%	-2.50%	4.65%
ICICI Prudential Large Cap	-2.51%	10.10%	-0.95%	4.74%
SBI Large Cap	-3.18%	10.67%	-2.79%	5.15%
Nippon India Large Cap	-4.83%	11.34%	-0.42%	3.01%
Mirae Asset Large Cap	-3.81%	10.56%	-1.46%	4.79%
HDFC Large Cap	-3.15%	8.79%	-1.53%	4.28%
Axis Large Cap	-3.49%	9.46%	-2.44%	3.52%
Aditya Birla Sun Life Large Cap	-3.99%	11.50%	-2.28%	4.92%
Canara Robeco Large Cap	-3.95%	10.80%	-2.21%	3.91%
UTI Large Cap	-3.37%	10.13%	-1.81%	4.24%

Kotak Large Cap	-4.62%	11.20%	-1.49%	4.71%
Highest	-2.19%	11.50%	-0.42%	5.15%
Lowest	-4.83%	8.79%	-2.79%	3.01%

Figure 4.5 Quarterly Returns of Large Cap Schemes vs. Nifty 100 Benchmark – 2025



Interpretation

The year 2025 was a choppy one. It had two dips and two recoveries. The table shows how each scheme handled this uneven terrain. Patience and timing mattered more than ever.

Q1: A Quiet Pullback

The year began on a soft note. The Nifty 100 benchmark slipped by 2.19%. It was not a panic fall. But it did keep investors on edge. Every scheme in the list ended Q1 in the red. ICICI Prudential Large Cap managed the best among them. It dropped by just 2.51%. This was almost in line with the benchmark. HDFC Large Cap and SBI Large Cap fell by around 3.15%. They did not stray too far from the index.

A few funds took a harder hit. Nippon India Large Cap fell by 4.83%. Kotak Large Cap was also down by 4.62%. These numbers were noticeably worse than the benchmark. The first quarter showed which funds were positioned more defensively.

Q2: A Strong Bounce Back

Quarter two brought a wave of relief. The Nifty 100 surged by 10.30%. It was a broad rally that lifted almost every stock. Aditya Birla Sun Life Large Cap led the charge. It delivered a robust 11.50% return. Nippon India Large Cap bounced back strongly with 11.34%. Kotak Large Cap also made up for its Q1 loss with an 11.20% gain. These funds showed their ability to ride the momentum. HDFC Large Cap was the only fund that stayed below 9%. It returned 8.79%. The performance was positive but lagged the peer group. Axis Large Cap also settled at a modest 9.46%.

Q3: Another Dip Tests Nerves

Just when confidence was returning, the market dipped again. The Nifty 100 fell by 2.50% in Q3. It was a reminder that 2025 was not a one-way street. Nippon India Large Cap stood out in this phase. It fell by just 0.42%. This was the smallest decline among all schemes. The fund protected capital very well. ICICI Prudential Large Cap also held up with a drop of only 0.95%. A few schemes could not escape the broader weakness. SBI Large Cap fell by 2.79%. It dropped slightly more than the benchmark. Axis Large Cap also slipped by 2.44%. The Q3 period highlighted the funds with a steadier hand during turbulence.

Q4: Ending on a Positive Note

The final quarter brought some cheer back. The Nifty 100 gained 4.65%. It was a modest but welcome recovery to close the year. SBI Large Cap finished the year strongly. It posted a 5.15% return in Q4. This was the best performance among its peers. Aditya Birla Sun Life Large Cap followed with 4.92%. Mirae Asset Large Cap also delivered a solid 4.79%. Nippon India Large Cap lost steam in the final stretch. It managed only 3.01%. This was the lowest return in Q4. After a brilliant Q2 and a steady Q3, the fund appeared to run out of fuel. Axis Large Cap also lagged with 3.52%.

Final Observation

The 2025 data offers a few clear takeaways. ICICI Prudential Large Cap was the most consistent performer. It never fell too much and never missed the recovery. Aditya Birla Sun Life Large Cap showed strong upside capture in Q2 and Q4. Nippon India Large Cap had a year of extremes. It fell the most in Q1. It rose sharply in Q2. It held up best in Q3. Then it lagged in Q4. This kind of volatility is a double-edged sword. For an

investor, 2025 proved one thing. A fund that performs well in both up and down quarters is hard to find. But it is worth the search.

4.1.2 Yearly Returns of Large Cap Schemes

Table 4.6 Yearly Annualised Return of Large Cap Schemes (2021–2025)

Large Cap	Yearly Annualised Return				
Name of the scheme	2021	2022	2023	2024	2025
Nifty 100 (Bench Mark)	26.43%	2.58%	19.64%	11.23%	10.08%
ICICI Prudential Large Cap	31.43%	6.70%	27.53%	18.08%	11.35%
SBI Large Cap	28.11%	4.22%	22.82%	13.84%	9.53%
Nippon India Large Cap	33.58%	10.31%	31.72%	18.51%	8.68%
Mirae Asset Large Cap	29.28%	0.60%	17.74%	13.13%	9.81%
HDFC Large Cap	30.72%	10.26%	30.00%	12.63%	8.19%
Axis Large Cap	23.83%	-5.85%	18.11%	15.33%	6.68%
Aditya Birla Sun Life Large Cap	30.17%	3.47%	23.20%	16.77%	9.76%
Canara Robeco Large Cap	28.01%	1.27%	23.17%	19.72%	8.13%
UTI Large Cap	32.23%	-1.82%	21.24%	12.81%	8.92%
Kotak Large Cap	30.64%	2.60%	23.74%	18.14%	9.39%
Highest	33.58%	10.31%	31.72%	19.72%	11.35%
Lowest	23.83%	-5.85%	17.74%	11.23%	6.68%

Figure 4.6 Yearly Annualised Return of Large Cap Schemes (2021–2025)



Interpretation

The annualised return data for the five-year period spanning 2021 to 2025 reveals distinct patterns in fund performance relative to the Nifty 100 benchmark. The table permits an evaluation of long-term consistency, volatility of returns, and the ability of individual schemes to generate alpha across varying market cycles.

2021: Exceptional Post-Pandemic Rally

The calendar year 2021 delivered extraordinary returns across the large cap category. The Nifty 100 benchmark recorded an annualised return of 26.43%. All ten schemes under review generated positive returns. A majority of the funds outperformed the benchmark by a noticeable margin. Nippon India Large Cap registered the highest return at 33.58%, followed closely by UTI Large Cap at 32.23% and ICICI Prudential Large Cap at 31.43%. Axis Large Cap was the only scheme to lag the benchmark significantly, posting a return of 23.83%. The data indicates a year where active management generally rewarded investors with superior upside capture.

2022: A Year of Moderation and Stress

The year 2022 presented a stark contrast to the preceding year. The benchmark return compressed sharply to 2.58%. This subdued performance reflects the market correction observed during the middle quarters of that year. The dispersion of returns among funds was considerable. Nippon India Large Cap and HDFC Large Cap demonstrated relative resilience, achieving returns of 10.31% and 10.26% respectively. This represents a substantial outperformance in a flat market environment. Conversely, Axis Large Cap and UTI Large Cap recorded negative annualised returns of -5.85% and -1.82% respectively. The 2022 data underscores the importance of downside protection in portfolio construction.

2023: A Broad-Based Recovery

The market rebounded strongly in 2023. The benchmark returned 19.64%. Once again, the majority of active funds capitalised on the upward momentum. Nippon India Large Cap led the category with a remarkable 31.72% return. HDFC Large Cap also crossed the 30% threshold. ICICI Prudential Large Cap delivered a robust 27.53%. Notably, Mirae Asset Large Cap and Axis Large Cap underperformed the benchmark during this recovery phase, posting returns of 17.74% and 18.11% respectively. This

suggests that the factors which aided these funds in 2021 did not carry forward with equal force into 2023.

2024: Consolidation and Normalisation

The year 2024 saw returns moderate to a more sustainable level. The benchmark recorded a gain of 11.23%. Canara Robeco Large Cap emerged as the top performer with a return of 19.72%, followed by Nippon India Large Cap (18.51%) and ICICI Prudential Large Cap (18.08%). The performance gap between the best and the rest narrowed compared to previous years. All schemes remained in positive territory. The data suggests a year where stock selection played a critical role in generating excess returns over a moderately rising index.

2025: Subdued Performance Amidst Volatility

The year 2025 was characterised by increased market volatility and a lower overall return profile. The benchmark generated an annualised return of 10.08%. Performance among the funds was tightly clustered. ICICI Prudential Large Cap achieved the highest return at 11.35%, followed by Aditya Birla Sun Life Large Cap at 9.76% and Mirae Asset Large Cap at 9.81%. Several schemes, including Axis Large Cap (6.68%), Canara Robeco Large Cap (8.13%), and HDFC Large Cap (8.19%), failed to match the benchmark return. The lower dispersion indicates a challenging environment for active alpha generation.

Final Observations

The five-year annualised data permits several academic inferences. First, ICICI Prudential Large Cap and Nippon India Large Cap have consistently ranked among the top performers, although the latter exhibits higher year-on-year volatility. Second, Axis Large Cap demonstrates a pattern of significant underperformance during periods of market stress, as evidenced by negative returns in 2022 and lower relative returns in other years. Third, Canara Robeco Large Cap and Kotak Large Cap present a profile of steady, albeit unspectacular, performance that largely tracks or modestly exceeds the benchmark.

4.1.3 Beta & Volatility of Large Cap Schemes

Table 4.7 Volatility of Large Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
Nifty 100	15.46%	17.30%	9.73%	14.83%	12.05%
ICICI Prudential Large Cap	14.93%	15.45%	8.77%	13.37%	11.01%
SBI Large Cap	16.02%	16.26%	8.35%	12.45%	11.16%
Nippon India Large Cap	16.22%	17.31%	9.46%	14.56%	12.06%
Mirae Asset Large Cap	14.84%	16.42%	9.35%	13.50%	11.91%
HDFC Large Cap	16.40%	16.06%	9.46%	14.62%	11.45%
Axis Large Cap	15.22%	16.53%	8.90%	13.18%	11.24%
Aditya Birla Sun Life Large Cap	15.21%	16.19%	9.11%	13.88%	11.22%
Canara Robeco Large Cap	14.76%	16.28%	8.98%	13.69%	11.59%
UTI Large Cap	15.17%	16.55%	8.81%	12.55%	11.28%
Kotak Large Cap	14.56%	16.84%	8.93%	13.92%	11.75%

Interpretation

The volatility analysis, proxied by annualised standard deviation of returns for the Nifty 100 benchmark and ten large-cap mutual funds from 2021 to 2025, reveals systematic temporal patterns in market risk as well as meaningful cross-sectional dispersion in fund-specific stability. At the benchmark level, volatility was highest in 2022 (17.30%), reflecting global monetary policy tightening, inflationary pressures, and geopolitical uncertainties following the Ukraine conflict. This was followed by elevated volatility in 2021 (15.46%) and 2024 (14.83%), with the lowest benchmark volatility observed in 2023 (9.73%)—a year characterised by a strong, steady recovery with minimal disruptive shocks. The declining volatility trend from 2024 (14.83%) to 2025 (12.05%) suggests a gradual market stabilisation, albeit at levels higher than the 2023 trough.

A critical finding is that most funds exhibited lower volatility than the benchmark across all years, indicating that active large-cap fund management successfully dampened portfolio fluctuations relative to the broader Nifty 100 index. This is particularly evident in 2022, the most volatile year, where the benchmark recorded 17.30% while all funds ranged between 15.45% (ICICI Prudential) and 17.31% (Nippon India)—with only Nippon India marginally exceeding benchmark volatility. In 2021, Kotak Large Cap recorded the lowest volatility (14.56%) despite the benchmark being at 15.46%, while HDFC Large Cap showed the highest fund volatility (16.40%) yet still remained within a comparable range.

Examining individual fund behaviour, ICICI Prudential Large Cap demonstrated the most consistent risk containment, recording the lowest or near-lowest volatility in four of five years (2021: 14.93%, 2022: 15.45%, 2023: 8.77%, 2025: 11.01%), suggesting robust portfolio construction with diversified, low-correlation holdings. Kotak Large Cap also exhibited notably low volatility in 2021 (14.56%) and 2023 (8.93%), though it was slightly higher in 2022 (16.84%) and 2024 (13.92%). Conversely, Nippon India Large Cap—despite being the top return generator across multiple years—consistently showed higher volatility (2021: 16.22%, 2022: 17.31%, 2023: 9.46%, 2024: 14.56%), indicating a return–risk trade-off where alpha generation came with elevated fluctuation. HDFC Large Cap similarly displayed above-average volatility in 2021 (16.40%) and 2024 (14.62%), consistent with its strong but variable return profile observed in the returns table.

The year 2023 presents an interesting anomaly: despite extremely low benchmark volatility (9.73%), fund volatilities clustered tightly between 8.35% (SBI Large Cap) and 9.46% (Nippon India and HDFC), suggesting that in calm markets, active management converges toward index-like risk characteristics. In contrast, 2024 showed wider dispersion, with SBI Large Cap (12.45%) and UTI Large Cap (12.55%) on the lower end, while HDFC (14.62%) and Nippon India (14.56%) remained at the higher end, mirroring their respective return-seeking strategies.

A noteworthy cross-fund comparison involves Axis Large Cap, which had previously shown return inconsistency (negative in 2022, weak in 2025). Its volatility profile is moderate—15.22% (2021), 16.53% (2022), 8.90% (2023), 13.18% (2024), 11.24% (2025)—neither the lowest nor highest. This suggests that its poor return performance cannot be attributed to excessive risk-taking; rather, it likely stems from suboptimal security selection or sectoral allocation. Similarly, Mirae Asset Large Cap exhibited moderate volatility (14.84%–16.42% range) but previously showed below-benchmark returns, again pointing to inefficient risk–return conversion.

From a portfolio construction perspective, these findings have practical implications. Funds that consistently delivered both lower volatility than the benchmark (ICICI Prudential, Kotak, SBI in certain years) and superior returns (ICICI Prudential particularly) represent efficient active managers. In contrast, funds with higher volatility but only average or below-average returns (e.g., HDFC in certain years,

Nippon India despite its return advantage) require careful scrutiny of whether the additional risk is adequately compensated. The inverse relationship between return performance and volatility is not consistently observed—for instance, Nippon India’s high volatility is accompanied by high returns, whereas Axis’s moderate volatility is accompanied by low returns, indicating that volatility alone is an insufficient measure of manager skill.

Finally, the temporal decline in volatility from 2022 to 2023, followed by a moderate increase in 2024–2025, aligns with global market cycles of fear, normalisation, and cautious recovery. Future research should extend this analysis to downside deviation (semi-volatility) and beta relative to Nifty 100 to distinguish between systematic and idiosyncratic risk components, as well as compute Sharpe and Sortino ratios to evaluate risk-adjusted returns comprehensively. Additionally, examining the correlation between volatility and fund expense ratios could reveal whether higher-cost funds deliver commensurate risk management benefits.

Table 4. 8 Beta of Large Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
ICICI Prudential Large Cap	0.9469	0.8797	0.8713	0.8867	0.8909
SBI Large Cap	1.0156	0.9268	0.8189	0.5079	0.6557
Nippon India Large Cap	1.0115	0.9804	0.9308	0.9644	0.9750
Mirae Asset Large Cap	0.9458	0.9374	0.9305	0.8956	0.9684
HDFC Large Cap	1.0202	0.9105	0.9414	0.9758	0.9236
Axis Large Cap	0.9563	0.9284	0.8536	0.6643	0.6324
Aditya Birla Sun Life Large Cap	0.9704	0.9260	0.9147	0.9274	0.9138
Canara Robeco Large Cap	0.9459	0.9318	0.8994	0.9143	0.9414
UTI Large Cap	0.9645	0.9421	0.8667	0.8220	0.9117
Kotak Large Cap	0.9277	0.9609	0.8905	0.9287	0.9552

Interpretation

The beta analysis across ten large-cap mutual funds relative to the Nifty 100 benchmark from 2021 to 2025 reveals significant heterogeneity in systematic risk exposure, both cross-sectionally and temporally. Unlike volatility, which measures total risk, beta isolates market-driven risk, thereby providing insights into each fund's inherent cyclicity and active management posture. The benchmark beta is not applicable (denoted as blank) since it represents the market against which all fund betas are calculated.

A striking pattern emerges: the majority of funds exhibited betas below 1.00 across most years, indicating a defensive bias in large-cap fund management relative to the Nifty 100. This is somewhat counterintuitive, as one might expect large-cap funds—constrained to invest in the same universe as the benchmark—to cluster near unity. Instead, the systematic sub-unity beta suggests active cash holdings, sectoral underweighting of high-beta stocks, or tactical timing strategies that reduce market sensitivity.

Examining temporal dynamics, beta estimates across funds declined notably from 2021 to 2023, then showed mixed patterns in 2024–2025. In 2021, a strong bull market, betas ranged from 0.9277 (Kotak Large Cap) to 1.0202 (HDFC Large Cap), with only HDFC and SBI Large Cap (1.0156) exceeding unity—implying these funds amplified market upside. Nippon India Large Cap (1.0115) also marginally exceeded 1.00. By contrast, ICICI Prudential (0.9469), Mirae Asset (0.9458), Canara Robeco (0.9459), and Kotak (0.9277) exhibited defensive positioning even during a rising market, potentially sacrificing some upside for downside protection.

The year 2022, characterised by high volatility and low benchmark returns (2.58%), saw all fund betas decline substantially, ranging from 0.8797 (ICICI Prudential) to 0.9804 (Nippon India). This universal beta compression suggests systematic derisking by fund managers anticipating continued turbulence. Notably, no fund exceeded a beta of 1.00 in 2022, meaning all funds were less sensitive to market movements than the benchmark itself—a defensive posture that likely mitigated losses during a difficult year. ICICI Prudential (0.8797) and Axis Large Cap (0.9284) were among the most defensive, while Nippon India (0.9804) remained closest to market sensitivity.

The year 2023, a strong recovery year (benchmark 19.64%), witnessed the widest dispersion in beta estimates, ranging dramatically from 0.8189 (SBI Large Cap) to 0.9414 (HDFC Large Cap). This unusually low range—with all funds below 0.95—is noteworthy. The most striking observation is SBI Large Cap's beta of 0.8189, the lowest recorded across the entire five-year period for any fund. This implies that SBI Large Cap captured only approximately 82% of the market's upside during a strong bull rally, which explains its return of 22.82% in 2023 versus the benchmark's 19.64%—the lower beta was actually beneficial as the market rose, but this defensive posture would have been detrimental had the market fallen. ICICI Prudential (0.8713) and UTI Large Cap (0.8667) also exhibited strongly defensive positioning. HDFC Large Cap (0.9414) and Nippon India (0.9308) were relatively more aggressive within the constrained range.

The years 2024 and 2025 present the most anomalous findings, requiring careful interpretation. In 2024, betas bifurcated sharply: the majority of funds clustered between 0.8220 (UTI) and 0.9758 (HDFC), but two extreme outliers emerged—SBI Large Cap (0.5079) and Axis Large Cap (0.6643). A beta of 0.5079 implies that SBI Large Cap's returns moved only half as much as the Nifty 100, an extraordinarily defensive posture for a large-cap fund. This explains its 2024 return of 13.84% versus the benchmark's 11.23%—the defensive beta was advantageous as the market rose moderately. However, such a low beta raises questions about whether the fund maintained significant cash positions or deviated substantially from benchmark composition. Similarly, Axis Large Cap's beta of 0.6643, combined with its return of 15.33% versus benchmark 11.23%, indicates efficient upside capture relative to its low market sensitivity.

In 2025, the bifurcation persisted with SBI Large Cap (0.6557) and Axis Large Cap (0.6324) again showing exceptionally low betas, alongside ICICI Prudential (0.8909) and others in the 0.91–0.97 range. This consistency suggests a deliberate, persistent low-beta strategy by SBI and Axis fund managers rather than a temporary tactical adjustment. However, returns analysis from the previous table shows Axis Large Cap delivered only 6.68% in 2025 versus benchmark 10.08%, meaning its low beta failed to provide the expected downside protection because the market actually rose—low beta became a liability. This highlights a critical insight: low beta is only advantageous in falling or moderately rising markets; in strongly rising markets, low beta caps participation in upside.

A cross-fund comparative analysis yields important observations. Kotak Large Cap consistently exhibited the lowest or near-lowest beta in 2021 (0.9277), 2023 (0.8905), and maintained moderate levels thereafter, aligning with its low-volatility profile noted earlier. ICICI Prudential Large Cap demonstrated remarkable beta consistency across all five years (0.8867–0.9469 range), never exceeding 0.95, reinforcing its identity as a genuinely defensive large-cap fund—a finding that complements its return consistency (always above benchmark). HDFC Large Cap consistently showed the highest or near-highest beta in every year (1.0202 in 2021, 0.9758 in 2024, 0.9414 in 2023), confirming its aggressive market posture and explaining its strong returns in up-markets but weaker relative performance in 2025 when markets rose modestly.

The relationship between beta and returns merits theoretical attention. In efficient markets, higher beta should command higher expected returns. Empirically, in 2021—a strong up-market—higher-beta funds (HDFC, SBI, Nippon) did deliver superior returns. In 2023, however, the lowest-beta fund (SBI at 0.8189) delivered a return of 22.82% versus the highest-beta fund (HDFC at 0.9414) delivering 30.00%—the beta-return relationship held directionally but the magnitude difference (0.1225 beta difference yielding 7.18% return difference) suggests other factors at play. In 2025, the relationship broke down entirely: the lowest-beta fund (Axis at 0.6324) delivered the worst return (6.68%), while higher-beta funds (Nippon India 0.9750, Kotak 0.9552) delivered better returns (8.68% and 9.39% respectively), consistent with the positive market return environment.

Finally, methodological considerations for future research emerge from this analysis. The anomalously low betas for SBI and Axis in 2024–2025 (0.5079 and 0.6324 respectively) warrant investigation into whether these reflect genuine market exposure or statistical artefacts arising from non-linear relationships, regime shifts, or benchmark misalignment. Rolling beta estimation and conditional beta models (e.g., asymmetric beta that differs in up versus down markets) would provide richer insights. Additionally, decomposing beta into cash holdings, sectoral betas, and stock selection effects would illuminate whether low beta results from deliberate defensive positioning or from idiosyncratic factor exposures. The temporal instability of beta estimates across all funds underscores the non-stationarity of systematic risk in emerging markets like India, challenging the assumption of beta as a stable fund characteristic.

4.1.4 Sharpe Ratio of Large Cap Schemes

Table 4.9 Sharpe Ratio of Large Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2021	UTI Large Cap	32.23	15.17	3.35	1.90	1
2021	ICICI Prudential Large Cap	31.43	14.93	3.35	1.88	2
2021	Kotak Large Cap	30.64	14.56	3.35	1.87	3
2021	Nippon India Large Cap	33.58	16.22	3.35	1.86	4
2021	Aditya Birla Sun Life Large Cap	30.17	15.21	3.35	1.76	5
2021	Mirae Asset Large Cap	29.28	14.84	3.35	1.75	6
2021	Canara Robeco Large Cap	28.01	14.76	3.35	1.67	7
2021	HDFC Large Cap	30.72	16.4	3.35	1.67	8
2021	SBI Large Cap	28.11	16.02	3.35	1.55	9
2021	Axis Large Cap	23.83	15.22	3.35	1.35	10

The year 2021 was a rewarding one for large cap investors. The risk-free rate was a comfortable 3.35%. Every fund in the list delivered a positive Sharpe Ratio. UTI Large Cap claimed the top spot with a Sharpe Ratio of 1.90. It earned a solid return of 32.23% while keeping volatility at a reasonable 15.17%. ICICI Prudential Large Cap and Kotak Large Cap followed very closely with ratios of 1.88 and 1.87. What is worth noting is the performance of Kotak Large Cap. It posted the lowest volatility among all funds at just 14.56%. Its return of 30.64% was strong but not the highest. Yet the controlled risk pushed it right to the top tier. Nippon India Large Cap gave investors the highest return of 33.58%. But it also came with higher volatility of 16.22%. As a result, its Sharpe Ratio settled at 1.86 and placed it fourth. This shows that a smoother journey often earns a better risk-adjusted score than a faster but bumpier one.

Aditya Birla Sun Life and Mirae Asset posted Sharpe Ratios of 1.76 and 1.75 respectively. Their returns hovered near 30% with moderate risk levels. Canara Robeco and HDFC Large Cap shared an identical Sharpe Ratio of 1.67. But their stories were different. HDFC Large Cap earned a higher return of 30.72% yet carried the highest volatility of 16.40%. The extra risk simply erased the advantage of the higher return. SBI Large Cap managed a Sharpe Ratio of 1.55 with a return of 28.11%. Axis Large Cap had a year to forget. It returned just 23.83% and recorded the lowest Sharpe Ratio of 1.35. The fund took on risk similar to its peers but could not keep up on the

return front. The 2021 numbers remind us of a simple truth. High returns catch the eye, but the risk taken to get there matters just as much. Funds like UTI and Kotak struck the right balance and came out ahead.

Table 4.10 Sharpe Ratio of Large Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2022	HDFC Large Cap	10.26	16.06	4.78	0.34	1
2022	Nippon India Large Cap	10.31	17.31	4.78	0.32	2
2022	ICICI Prudential Large Cap	6.7	15.45	4.78	0.12	3
2022	SBI Large Cap	4.22	16.26	4.78	-0.03	4
2022	Aditya Birla Sun Life Large Cap	3.47	16.19	4.78	-0.08	5
2022	Kotak Large Cap	2.6	16.84	4.78	-0.13	6
2022	Canara Robeco Large Cap	1.27	16.28	4.78	-0.22	7
2022	Mirae Asset Large Cap	0.6	16.42	4.78	-0.25	8
2022	UTI Large Cap	-1.82	16.55	4.78	-0.40	9
2022	Axis Large Cap	-5.85	16.53	4.78	-0.64	10

The year 2022 was a tough one for large cap funds. The risk-free rate climbed to 4.78%. This higher threshold made it very difficult to earn a positive Sharpe Ratio. Only two funds managed to stay in the green. HDFC Large Cap led the pack with a Sharpe Ratio of 0.34. It delivered a return of 10.26%. Nippon India Large Cap followed closely with a ratio of 0.32. It earned the highest return at 10.31%. But its volatility of 17.31% was also the highest in the group. The fund gave investors some gains, yet the ride was far from smooth. ICICI Prudential Large Cap came third with a slim ratio of 0.12. After that, the numbers turned red. Seven out of ten funds failed to beat the risk-free rate on a risk-adjusted basis. It was a year that tested the patience of even seasoned investors. SBI Large Cap sat just below the line with a Sharpe Ratio of -0.03. Its return of 4.22% could not cross the 4.78% hurdle. Aditya Birla Sun Life, Kotak, Canara Robeco, and Mirae Asset all recorded negative ratios between -0.08 and -0.25. Their returns ranged from 3.47% down to 0.60%. UTI Large Cap slipped deeper into the red with a ratio of -0.40 and a negative return of -1.82%. Axis Large Cap had the most difficult year. It posted a return of -5.85% and a Sharpe Ratio of -0.64. An investor would have been better off keeping money in a fixed deposit rather than bearing the volatility of these funds. The 2022 data makes one thing clear. In a challenging market, protecting

capital becomes more important than chasing returns. HDFC and Nippon showed that even modest positive returns can be a victory when conditions are rough.

Table 4.11 Sharpe Ratio of Large Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2023	Nippon India Large Cap	31.72	9.46	6.87	2.63	1
2023	HDFC Large Cap	30	9.46	6.87	2.45	2
2023	ICICI Prudential Large Cap	27.53	8.77	6.87	2.36	3
2023	SBI Large Cap	22.82	8.35	6.87	1.91	4
2023	Kotak Large Cap	23.74	8.93	6.87	1.89	5
2023	Canara Robeco Large Cap	23.17	8.98	6.87	1.82	6
2023	Aditya Birla Sun Life Large Cap	23.2	9.11	6.87	1.79	7
2023	UTI Large Cap	21.24	8.81	6.87	1.63	8
2023	Axis Large Cap	18.11	8.9	6.87	1.26	9
2023	Mirae Asset Large Cap	17.74	9.35	6.87	1.16	10

The year 2023 brought a welcome rebound for large cap investors. The risk-free rate was high at 6.87%. Yet every single fund posted a positive Sharpe Ratio. Nippon India Large Cap claimed the top rank with an impressive Sharpe Ratio of 2.63. It delivered a standout return of 31.72%. Its volatility was a controlled 9.46%. HDFC Large Cap followed in second place with a ratio of 2.45. It earned a return of 30.00% with the same volatility level of 9.46%. ICICI Prudential Large Cap secured third spot with a ratio of 2.36. It returned 27.53% and kept volatility even lower at 8.77%. These top three funds showed that strong returns paired with disciplined risk management can produce excellent risk-adjusted outcomes.

SBI Large Cap and Kotak Large Cap came next with Sharpe Ratios of 1.91 and 1.89. SBI Large Cap recorded the lowest volatility in the group at just 8.35%. Its return of 22.82% was modest but the smooth ride helped its risk-adjusted score. Canara Robeco, Aditya Birla Sun Life, and UTI Large Cap posted ratios between 1.82 and 1.63. Their returns were in the range of 21% to 23%. Axis Large Cap and Mirae Asset Large Cap brought up the rear. Mirae Asset recorded the lowest Sharpe Ratio of 1.16 with a return of 17.74%. Its volatility of 9.35% was the highest among the bottom funds. The 2023 data shows that when the market recovers, the funds that keep volatility in check while capturing the upside tend to rise to the top. Nippon India Large Cap did exactly that and rewarded its investors handsomely.

Table 4.12 Sharpe Ratio of Large Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2024	Canara Robeco Large Cap	19.72	13.69	6.68	0.95	1
2024	ICICI Prudential Large Cap	18.08	13.37	6.68	0.85	2
2024	Kotak Large Cap	18.14	13.92	6.68	0.82	3
2024	Nippon India Large Cap	18.51	14.56	6.68	0.81	4
2024	Aditya Birla Sun Life Large Cap	16.77	13.88	6.68	0.73	5
2024	Axis Large Cap	15.33	13.18	6.68	0.66	6
2024	SBI Large Cap	13.84	12.45	6.68	0.58	7
2024	UTI Large Cap	12.81	12.55	6.68	0.49	8
2024	Mirae Asset Large Cap	13.13	13.5	6.68	0.48	9
2024	HDFC Large Cap	12.63	14.62	6.68	0.41	10

The year 2024 was a year of moderate gains for large cap funds. The risk-free rate remained elevated at 6.68%. All ten funds managed to stay in positive territory on a risk-adjusted basis. Canara Robeco Large Cap surprised everyone by claiming the top spot. It posted a Sharpe Ratio of 0.95 with a solid return of 19.72%. Its volatility of 13.69% was well controlled. ICICI Prudential Large Cap followed in second place with a ratio of 0.85. It returned 18.08% and kept volatility at 13.37%. Kotak Large Cap and Nippon India Large Cap came next with ratios of 0.82 and 0.81. Nippon India gave a slightly higher return of 18.51%. But its volatility of 14.56% was among the highest in the group. That extra risk pulled its Sharpe Ratio down just a notch.

Aditya Birla Sun Life and Axis Large Cap occupied the middle ground with ratios of 0.73 and 0.66. Axis Large Cap kept volatility at 13.18%, which was the second lowest. Yet its return of 15.33% was modest. SBI Large Cap recorded the lowest volatility of all at 12.45%. Its return of 13.84% was on the lower side. The combination gave it a Sharpe Ratio of 0.58 and placed it seventh. UTI Large Cap, Mirae Asset Large Cap, and HDFC Large Cap brought up the rear. HDFC Large Cap had a particularly difficult year. It ranked last with a Sharpe Ratio of just 0.41. The fund delivered the lowest return of 12.63% while carrying the highest volatility of 14.62%. This was a sharp fall from its top ranks in previous years. The 2024 data shows that even in a decent market, the balance between return and risk separates the leaders from the laggards. Canara Robeco found that balance best.

Table 4.13 Sharpe Ratio of Large Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2025	ICICI Prudential Large Cap	11.35	11.01	5.80	0.50	1
2025	Aditya Birla Sun Life Large Cap	9.76	11.22	5.80	0.35	2
2025	Mirae Asset Large Cap	9.81	11.91	5.80	0.34	3
2025	SBI Large Cap	9.53	11.16	5.80	0.33	4
2025	Kotak Large Cap	9.39	11.75	5.80	0.31	5
2025	UTI Large Cap	8.92	11.28	5.80	0.28	6
2025	Nippon India Large Cap	8.68	12.06	5.80	0.24	7
2025	HDFC Large Cap	8.19	11.45	5.80	0.21	8
2025	Canara Robeco Large Cap	8.13	11.59	5.80	0.20	9
2025	Axis Large Cap	6.68	11.24	5.80	0.08	10

The year 2025 turned out to be a quiet one for large cap funds. The risk-free rate stood at 5.80%. All ten funds managed to keep their Sharpe Ratios in positive territory. Yet the numbers were the smallest seen in the five-year period. ICICI Prudential Large Cap topped the table with a Sharpe Ratio of 0.50. It delivered a return of 11.35%. More importantly, it kept volatility at just 11.01%. This was the lowest risk level among all funds. Aditya Birla Sun Life Large Cap and Mirae Asset Large Cap followed with ratios of 0.35 and 0.34. Their returns were around 9.80%. SBI Large Cap and Kotak Large Cap came next with ratios of 0.33 and 0.31. The differences between ranks were razor thin. It was a year where no fund truly ran away from the pack.

UTI Large Cap and Nippon India Large Cap settled in the middle with ratios of 0.28 and 0.24. Nippon India carried the highest volatility of 12.06%. This pulled down its risk-adjusted score. HDFC Large Cap and Canara Robeco Large Cap found themselves near the bottom. Canara Robeco slipped from its top rank in 2024 to ninth place. It returned just 8.13% with moderate volatility. Axis Large Cap occupied the last spot once again. It posted a Sharpe Ratio of 0.08. The fund returned only 6.68% and barely crossed the risk-free rate. An investor would have earned little extra for the risk taken. The 2025 data reminds us that even in a positive market, some funds simply tread water. ICICI Prudential stood out by keeping a steady hand and offering the smoothest ride in a sluggish year.

Table 4.14 Sharpe Ratio Rank (1 = Highest) for Large Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
UTI Large Cap	1	9	8	8	6
ICICI Prudential Large Cap	2	3	3	2	1
Kotak Large Cap	3	6	5	3	5
Nippon India Large Cap	4	2	1	4	7
Aditya Birla Sun Life Large Cap	5	5	7	5	2
Mirae Asset Large Cap	6	8	10	9	3
Canara Robeco Large Cap	7	7	6	1	9
HDFC Large Cap	8	1	2	10	8
SBI Large Cap	9	4	4	7	4
Axis Large Cap	10	10	9	6	10

The year-wise Sharpe Ratio rankings over the five-year period offer valuable insight into the stability and reliability of fund performance. A fund that consistently appears near the top of the table demonstrates an ability to deliver superior risk-adjusted returns across varying market conditions. ICICI Prudential Large Cap exemplifies this quality. Its rank never fell below third position in any single year. It held the second spot twice and achieved the top rank in 2025. Such steadiness suggests a disciplined approach to managing volatility while capturing returns. Kotak Large Cap also displayed a commendable degree of consistency. It remained within the top five ranks for four out of the five years under review. Aditya Birla Sun Life Large Cap showed a gradual upward trajectory, moving from mid-table positions to a strong second-place finish in 2025. In contrast, Nippon India Large Cap and HDFC Large Cap exhibited considerable variability. Nippon India secured the first rank in 2023 but fell to seventh place by 2025. HDFC Large Cap experienced an even wider swing, moving from the bottom rank in 2021 to the top in 2022, only to return to the lower end of the table in subsequent years. Such fluctuations indicate that while these funds can deliver outstanding results in favourable periods, their year-to-year performance is less predictable.

The rankings also highlight funds that have faced persistent challenges in maintaining competitive risk-adjusted outcomes. Axis Large Cap occupied the tenth and final position in four of the five years. This pattern points to sustained difficulties in generating excess returns relative to the risk undertaken. Mirae Asset Large Cap similarly spent much of the period in the lower half of the rankings, though its rise

to third place in 2025 may hint at improved performance. Canara Robeco Large Cap and UTI Large Cap each recorded a single year at the very top but could not sustain that position. Canara Robeco ranked first in 2024 and then dropped to ninth in 2025. UTI Large Cap began the period as the top-ranked fund in 2021 but gradually declined in the following years. SBI Large Cap maintained a relatively stable presence in the middle of the table without major extremes. The overall picture that emerges from the five-year rankings is one of meaningful dispersion. Only a small number of funds have demonstrated the ability to remain consistently near the top. For an investor seeking long-term wealth creation, this consistency in risk-adjusted performance is often more telling than a single year of exceptional returns.

4.1.5 Treynor Ratio of Large Cap Schemes

Table 4.15 Treynor Ratio of Large Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2021	UTI Large Cap	32.23	0.9645	3.35	29.94	1
2021	Nippon India Large Cap	33.58	1.0115	3.35	29.89	2
2021	ICICI Prudential Large Cap	31.43	0.9469	3.35	29.65	3
2021	Kotak Large Cap	30.64	0.9277	3.35	29.42	4
2021	Aditya Birla Sun Life Large Cap	30.17	0.9704	3.35	27.64	5
2021	Mirae Asset Large Cap	29.28	0.9458	3.35	27.42	6
2021	HDFC Large Cap	30.72	1.0202	3.35	26.83	7
2021	Canara Robeco Large Cap	28.01	0.9459	3.35	26.07	8
2021	SBI Large Cap	28.11	1.0156	3.35	24.38	9
2021	Axis Large Cap	23.83	0.9563	3.35	21.42	10

The Treynor Ratio measures how much excess return a fund earns for every unit of market risk taken. Market risk is captured by beta. A higher Treynor Ratio indicates better reward for the systematic risk borne by the investor. In 2021, the risk-free rate was 3.35%. UTI Large Cap secured the top rank with a Treynor Ratio of 29.94. It delivered a strong return of 32.23% while maintaining a beta of 0.96. This beta was slightly below the market level of 1.0. The fund gave investors a higher return with less market sensitivity. Nippon India Large Cap followed very closely with a ratio of 29.89. It earned the highest return of 33.58%. Its beta was 1.01, almost exactly in line with the

market. The extra return compensated well for the slightly higher market risk. ICICI Prudential Large Cap and Kotak Large Cap came next with ratios of 29.65 and 29.42. Both funds kept their betas below 0.95. This means they were less volatile than the broader market. Yet they delivered handsome returns above 30%.

Aditya Birla Sun Life and Mirae Asset posted Treynor Ratios of 27.64 and 27.42. Their betas were around 0.97 and 0.95. They offered a decent balance between market sensitivity and return. HDFC Large Cap had a beta of 1.02, the highest in the group. Its return of 30.72% was strong. But the higher market risk pulled its Treynor Ratio down to 26.83. Canara Robeco and SBI Large Cap recorded ratios of 26.07 and 24.38. SBI Large Cap had a beta above 1.0 but its return of 28.11% did not fully reward that extra sensitivity. Axis Large Cap ranked last with a Treynor Ratio of 21.42. It earned the lowest return of 23.83% with a beta of 0.96. The fund simply could not generate enough return for the market risk it carried. The 2021 Treynor data highlights an important point. Funds that keep their beta in check while delivering competitive returns tend to rise to the top on a risk-adjusted basis. UTI Large Cap did exactly that and came out ahead.

Table 4.16 Treynor Ratio of Large Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2022	HDFC Large Cap	10.26	0.9105	4.78	6.02	1
2022	Nippon India Large Cap	10.31	0.9804	4.78	5.64	2
2022	ICICI Prudential Large Cap	6.7	0.8797	4.78	2.18	3
2022	SBI Large Cap	4.22	0.9268	4.78	-0.60	4
2022	Aditya Birla Sun Life Large Cap	3.47	0.926	4.78	-1.41	5
2022	Kotak Large Cap	2.6	0.9609	4.78	-2.27	6
2022	Canara Robeco Large Cap	1.27	0.9318	4.78	-3.77	7
2022	Mirae Asset Large Cap	0.6	0.9374	4.78	-4.46	8
2022	UTI Large Cap	-1.82	0.9421	4.78	-7.01	9
2022	Axis Large Cap	-5.85	0.9284	4.78	-11.45	10

The year 2022 was a difficult one for large cap funds on the Treynor front. The risk-free rate climbed to 4.78%. Only three funds managed to earn a positive Treynor Ratio. HDFC Large Cap led the way with a ratio of 6.02. It delivered a return of 10.26% while keeping its beta low at 0.91. This lower market sensitivity worked in its favour

during a choppy year. Nippon India Large Cap followed with a ratio of 5.64. It earned a slightly higher return of 10.31%. Its beta was closer to 1.0 at 0.98. The fund took on more market risk but still generated a decent reward for it. ICICI Prudential Large Cap came third with a modest ratio of 2.18. Its beta was the lowest in the group at 0.88. The defensive stance helped, but the return of 6.70% was just enough to stay positive. After these three, the numbers turned red. Seven funds failed to reward investors for the market risk they carried.

SBI Large Cap was the first to slip into negative territory. Its Treynor Ratio stood at -0.60. The fund returned only 4.22%, which was less than the risk-free rate. Aditya Birla Sun Life, Kotak, Canara Robeco, and Mirae Asset all posted ratios between -1.41 and -4.46. Their returns ranged from 3.47% down to a mere 0.60%. UTI Large Cap fell deeper with a ratio of -7.01 and a negative absolute return. Axis Large Cap had a year to forget. Its Treynor Ratio dropped to -11.45. The fund lost 5.85% while carrying a beta of 0.93. It was a painful outcome for investors. The 2022 Treynor data shows that in a tough market, a lower beta alone does not guarantee safety. The return must still cover the risk-free hurdle. HDFC and Nippon managed to do this better than their peers.

Table 4.17 Treynor Ratio of Large Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2023	Nippon India Large Cap	31.72	0.9308	6.87	26.70	1
2023	HDFC Large Cap	30	0.9414	6.87	24.57	2
2023	ICICI Prudential Large Cap	27.53	0.8713	6.87	23.71	3
2023	SBI Large Cap	22.82	0.8189	6.87	19.48	4
2023	Kotak Large Cap	23.74	0.8905	6.87	18.94	5
2023	Canara Robeco Large Cap	23.17	0.8994	6.87	18.12	6
2023	Aditya Birla Sun Life Large Cap	23.2	0.9147	6.87	17.85	7
2023	UTI Large Cap	21.24	0.8667	6.87	16.58	8
2023	Axis Large Cap	18.11	0.8536	6.87	13.17	9
2023	Mirae Asset Large Cap	17.74	0.9305	6.87	11.68	10

The year 2023 brought a strong recovery, and the Treynor Ratios reflected this positive shift. The risk-free rate was high at 6.87%. Yet every fund managed to post a solid positive Treynor Ratio. Nippon India Large Cap claimed the top spot with a ratio of 26.70. It delivered a standout return of 31.72% with a beta of 0.93. This meant the fund earned excellent returns while taking slightly less market risk than the index. HDFC

Large Cap followed in second place with a ratio of 24.57. It returned 30.00% with a beta of 0.94. ICICI Prudential Large Cap secured third position with a ratio of 23.71. Its beta was the second lowest at 0.87. The fund kept market sensitivity low and still managed a healthy 27.53% return. These top three funds demonstrated that a balanced approach to market risk can yield handsome rewards when the tide turns.

SBI Large Cap came next with a Treynor Ratio of 19.48. It recorded the lowest beta in the entire group at just 0.82. Its return of 22.82% was modest, but the very low market risk helped its ratio. Kotak, Canara Robeco, and Aditya Birla Sun Life posted ratios between 18.94 and 17.85. Their betas hovered around 0.90 and their returns were in the range of 23% to 24%. UTI Large Cap managed a ratio of 16.58 with a return of 21.24%. Axis Large Cap and Mirae Asset Large Cap brought up the rear. Mirae Asset recorded the lowest Treynor Ratio of 11.68. It returned just 17.74% despite carrying a beta of 0.93. The fund simply could not convert its market exposure into adequate returns. The 2023 Treynor data shows that when the market rises, funds with moderate betas that capture the upside effectively tend to lead the pack. Nippon India Large Cap did exactly that.

Table 4.18 Treynor Ratio of Large Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2024	Canara Robeco Large Cap	19.72	0.9143	6.68	14.26	1
2024	SBI Large Cap	13.84	0.5079	6.68	14.10	2
2024	Axis Large Cap	15.33	0.6643	6.68	13.02	3
2024	ICICI Prudential Large Cap	18.08	0.8867	6.68	12.86	4
2024	Kotak Large Cap	18.14	0.9287	6.68	12.34	5
2024	Nippon India Large Cap	18.51	0.9644	6.68	12.27	6
2024	Aditya Birla Sun Life Large Cap	16.77	0.9274	6.68	10.88	7
2024	UTI Large Cap	12.81	0.822	6.68	7.46	8
2024	Mirae Asset Large Cap	13.13	0.8956	6.68	7.20	9
2024	HDFC Large Cap	12.63	0.9758	6.68	6.10	10

The year 2024 offered a mixed bag for large cap funds on the Treynor measure. The risk-free rate stood at 6.68%. Canara Robeco Large Cap claimed the top rank with a Treynor Ratio of 14.26. It delivered a solid return of 19.72% with a beta of 0.91. The fund earned healthy returns without taking excessive market risk. SBI Large Cap came a very close second with a ratio of 14.10. This was an interesting outcome. Its return

was a modest 13.84%. But its beta was remarkably low at just 0.51. This meant the fund was far less sensitive to market movements than its peers. The low beta compensated for the lower return and pushed its Treynor Ratio near the top. Axis Large Cap secured third place with a ratio of 13.02. It returned 15.33% with a beta of 0.66. ICICI Prudential and Kotak Large Cap followed with ratios of 12.86 and 12.34. Their returns were around 18% with betas close to 0.90.

Nippon India Large Cap recorded a Treynor Ratio of 12.27. It earned a strong return of 18.51%. However, its beta of 0.96 was among the highest in the group. The higher market sensitivity pulled its ratio down to sixth place. Aditya Birla Sun Life managed a ratio of 10.88 with a return of 16.77%. UTI Large Cap and Mirae Asset Large Cap posted lower ratios of 7.46 and 7.20. Their returns were in the range of 12% to 13%. HDFC Large Cap found itself at the very bottom. Its Treynor Ratio was just 6.10. The fund delivered the lowest return of 12.63% while carrying the highest beta of 0.98. It took on near-market risk but failed to generate adequate reward. The 2024 Treynor data highlights an important lesson. A low beta can sometimes be a fund's best friend. SBI Large Cap proved this by turning a modest return into a top-tier risk-adjusted performance. Meanwhile, a high beta without commensurate return, as seen with HDFC, leads to disappointment.

Table 4.19 Treynor Ratio of Large Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2025	ICICI Prudential Large Cap	11.35	0.8909	5.80	6.23	1
2025	SBI Large Cap	9.53	0.6557	5.80	5.69	2
2025	Aditya Birla Sun Life Large Cap	9.76	0.9138	5.80	4.33	3
2025	Mirae Asset Large Cap	9.81	0.9684	5.80	4.14	4
2025	Kotak Large Cap	9.39	0.9552	5.80	3.76	5
2025	UTI Large Cap	8.92	0.9117	5.80	3.42	6
2025	Nippon India Large Cap	8.68	0.975	5.80	2.95	7
2025	HDFC Large Cap	8.19	0.9236	5.80	2.59	8
2025	Canara Robeco Large Cap	8.13	0.9414	5.80	2.48	9
2025	Axis Large Cap	6.68	0.6324	5.80	1.39	10

The year 2025 was a subdued one for large cap funds on the Treynor measure. The risk-free rate stood at 5.80%. All ten funds managed to stay in positive territory. Yet the ratios were the smallest seen across the five-year period. ICICI Prudential Large

Cap topped the table with a Treynor Ratio of 6.23. It delivered a return of 11.35% with a beta of 0.89. The fund took slightly less market risk than the index and earned a decent reward for it. SBI Large Cap followed closely in second place with a ratio of 5.69. Its return was a modest 9.53%. But its beta was remarkably low at just 0.66. This defensive posture helped it punch above its weight on a risk-adjusted basis. Aditya Birla Sun Life and Mirae Asset came next with ratios of 4.33 and 4.14. Their returns were around 9.80% with betas close to 0.92 and 0.97.

Kotak Large Cap and UTI Large Cap posted Treynor Ratios of 3.76 and 3.42. Their returns were in the range of 9.40% to 8.92%. Nippon India Large Cap recorded a ratio of 2.95. It carried the highest beta in the group at 0.98. Its return of 8.68% was simply not enough to compensate for the near-market risk it took. HDFC Large Cap and Canara Robeco Large Cap found themselves near the bottom with ratios of 2.59 and 2.48. Canara Robeco slipped from its top rank in 2024 to ninth place. Axis Large Cap occupied the last spot with a Treynor Ratio of just 1.39. It returned only 6.68% with a beta of 0.63. The low beta could not rescue such a weak return. The 2025 Treynor data shows that in a sluggish market, keeping market sensitivity low helps, but the return must still be reasonable. ICICI Prudential and SBI struck the best balance in a year of thin pickings.

Table 4.20 Treynor Ratio Rank (1 = Highest) for Large Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
UTI Large Cap	1	9	8	8	6
ICICI Prudential Large Cap	3	3	3	4	1
Kotak Large Cap	4	6	5	5	5
Nippon India Large Cap	2	2	1	6	7
Aditya Birla Sun Life Large Cap	5	5	7	7	3
Mirae Asset Large Cap	6	8	10	9	4
Canara Robeco Large Cap	8	7	6	1	9
HDFC Large Cap	7	1	2	10	8
SBI Large Cap	9	4	4	2	2
Axis Large Cap	10	10	9	3	10

The Treynor Ratio rankings across the five-year period reveal meaningful patterns in how consistently funds have rewarded investors for the market risk they carried. A stable high rank suggests that the fund manager has been able to generate healthy returns without taking on excessive sensitivity to market movements. ICICI Prudential

Large Cap stands out for its remarkable steadiness. It never placed outside the top four ranks in any single year. It held the third position for three consecutive years before moving to fourth and then claiming the top spot in 2025. This kind of dependability is not easy to achieve. Kotak Large Cap also showed a fair degree of consistency, staying within the middle of the table without dramatic shifts. SBI Large Cap presents an encouraging story of gradual improvement. It started at ninth place in 2021 but climbed steadily upward. By 2024 and 2025, it had secured the second rank in both years. This upward movement indicates that the fund's ability to manage market sensitivity has strengthened over time. On the other hand, Nippon India Large Cap and HDFC Large Cap displayed a more uneven path. Nippon India held top-two ranks in the initial three years but then slipped to sixth and seventh positions. HDFC Large Cap showed a sharp contrast, moving from a lower rank in 2021 to the very top in 2022, only to fall back toward the bottom in the later years. Such variations suggest that while these funds can perform well in certain market conditions, their year-to-year outcomes are less predictable.

The lower end of the ranking table also offers important observations. Axis Large Cap spent four of the five years at the very bottom. This repeated placement indicates persistent difficulty in converting market exposure into adequate returns. Mirae Asset Large Cap similarly occupied the lower half for most of the period, though its rise to fourth place in 2025 may signal a positive change. Canara Robeco Large Cap experienced a sharp spike in performance when it ranked first in 2024, but this was followed by a return to ninth place the very next year. UTI Large Cap began the period strongly with a first-place finish in 2021, yet its subsequent ranks drifted downward over the following years. The overall message from the five-year Treynor rankings is clear. A single year of top performance does not guarantee future success. Funds that manage to remain in the upper half of the table year after year, like ICICI Prudential, offer a sense of reliability that is valuable for long-term investors. The ability to consistently balance return and market sensitivity is what separates the truly steady performers from those that shine only in fleeting moments.

4.1.6 Jensen's Alpha Ratio of Large Cap Schemes

Table 4.21 Jensen's Alpha of Large Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Alpha	Rank
2021	Nippon India Large Cap	33.58	1.0115	3.35	26.42	6.89	1
2021	UTI Large Cap	32.23	0.9645	3.35	26.42	6.63	2
2021	ICICI Prudential Large Cap	31.43	0.9469	3.35	26.42	6.24	3
2021	Kotak Large Cap	30.64	0.9277	3.35	26.42	5.89	4
2021	ABSL Large Cap	30.17	0.9704	3.35	26.42	4.43	5
2021	Mirae Asset Large Cap	29.28	0.9458	3.35	26.42	4.11	6
2021	HDFC Large Cap	30.72	1.0202	3.35	26.42	3.83	7
2021	Canara Robeco Large Cap	28.01	0.9459	3.35	26.42	2.84	8
2021	SBI Large Cap	28.11	1.0156	3.35	26.42	1.33	9
2021	Axis Large Cap	23.83	0.9563	3.35	26.42	-1.58	10

Jensen's Alpha measures the excess return a fund generates over and above what its beta would predict. A positive alpha means the fund manager added value through stock selection or timing. In 2021, the market return was 26.42%. The risk-free rate stood at 3.35%. Nippon India Large Cap claimed the top spot with an alpha of 6.89%. It delivered a return of 33.58% with a beta of 1.01. The fund earned more than what its near-market risk would suggest. UTI Large Cap followed closely with an alpha of 6.63%. It returned 32.23% on a beta of 0.96. ICICI Prudential Large Cap and Kotak Large Cap posted alphas of 6.24% and 5.89%. Both funds kept their betas below 0.95 and still delivered returns above 30%. Aditya Birla Sun Life, Mirae Asset, HDFC, Canara Robeco, and SBI Large Cap also recorded positive alphas. Their values ranged from 4.43% down to 1.33%. Nine out of ten funds generated returns that beat market expectations. It was a year where active large cap managers generally added value.

Only one fund fell short of expectations. Axis Large Cap recorded a negative alpha of -1.58%. It returned 23.83% with a beta of 0.96. Given its market sensitivity, the expected return was higher. The fund simply could not keep pace with the broader market. The 2021 Jensen's Alpha data shows that even in a strong bull market, not every fund manager can outperform on a risk-adjusted basis. Nippon India Large Cap led the way by converting its market exposure into superior returns. A positive alpha is the

clearest sign that a fund manager has earned their fees. In 2021, most large cap managers did exactly that.

Table 4.22 Jensen's Alpha of Large Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Alpha	Rank
2022	Nippon India Large Cap	10.31	0.9804	4.78	2.57	7.70	1
2022	HDFC Large Cap	10.26	0.9105	4.78	2.57	7.49	2
2022	ICICI Prudential Large Cap	6.7	0.8797	4.78	2.57	3.86	3
2022	SBI Large Cap	4.22	0.9268	4.78	2.57	1.49	4
2022	ABSL Large Cap	3.47	0.926	4.78	2.57	0.74	5
2022	Kotak Large Cap	2.6	0.9609	4.78	2.57	-0.06	6
2022	Canara Robeco Large Cap	1.27	0.9318	4.78	2.57	-1.45	7
2022	Mirae Asset Large Cap	0.6	0.9374	4.78	2.57	-2.11	8
2022	UTI Large Cap	-1.82	0.9421	4.78	2.57	-4.52	9
2022	Axis Large Cap	-5.85	0.9284	4.78	2.57	-8.58	10

The year 2022 was a difficult one for large cap funds. The market return was a meagre 2.57%. The risk-free rate stood at 4.78%. With the market barely moving, generating positive alpha became a tough task. Yet some fund managers managed to add value. Nippon India Large Cap led the way with an alpha of 7.70%. It delivered a return of 10.31% with a beta of 0.98. The fund earned well above what its near-market risk would predict. HDFC Large Cap followed closely with an alpha of 7.49%. It returned 10.26% and kept its beta lower at 0.91. ICICI Prudential Large Cap also recorded a positive alpha of 3.86%. Its return of 6.70% on a beta of 0.88 showed good defensive stock selection. SBI Large Cap and Aditya Birla Sun Life Large Cap managed slim positive alphas of 1.49% and 0.74%. In a flat market, even a small positive alpha is a sign of decent fund management.

The remaining five funds slipped into negative territory. Kotak Large Cap barely missed the mark with an alpha of -0.06%. Its return of 2.60% was almost exactly what its beta of 0.96 would predict. Canara Robeco, Mirae Asset, and UTI Large Cap recorded alphas between -1.45% and -4.52%. Their returns ranged from 1.27% down to a negative -1.82%. Axis Large Cap had the most difficult year. Its alpha fell to -8.58%. The fund lost 5.85% in absolute terms. Given its beta of 0.93, the expected return was modestly positive. Instead, it delivered a significant loss. The 2022 Jensen's Alpha data shows that in a stagnant market, a fund manager's skill is truly tested.

Nippon India and HDFC Large Cap proved that careful stock selection can still generate excess returns even when the broader market offers very little.

Table 4.23 Jensen's Alpha of Large Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Alpha	Rank
2023	Nippon India Large Cap	31.72	0.9308	6.87	19.63	12.97	1
2023	HDFC Large Cap	30	0.9414	6.87	19.63	11.12	2
2023	ICICI Prudential Large Cap	27.53	0.8713	6.87	19.63	9.54	3
2023	Kotak Large Cap	23.74	0.8905	6.87	19.63	5.51	4
2023	SBI Large Cap	22.82	0.8189	6.87	19.63	5.50	5
2023	Canara Robeco Large Cap	23.17	0.8994	6.87	19.63	4.82	6
2023	ABSL Large Cap	23.2	0.9147	6.87	19.63	4.66	7
2023	UTI Large Cap	21.24	0.8667	6.87	19.63	3.31	8
2023	Axis Large Cap	18.11	0.8536	6.87	19.63	0.35	9
2023	Mirae Asset Large Cap	17.74	0.9305	6.87	19.63	-1.00	10

The year 2023 was a rewarding one for large cap investors, and Jensen's Alpha shows which fund managers truly added value. The market return was a healthy 19.63%. The risk-free rate stood at 6.87%. Nippon India Large Cap topped the chart with an alpha of 12.97%. It delivered a return of 31.72% with a beta of 0.93. The fund earned significantly more than what its market risk would predict. HDFC Large Cap followed with an alpha of 11.12%. It returned 30.00% on a beta of 0.94. ICICI Prudential Large Cap secured third place with an alpha of 9.54%. Its return of 27.53% came with a beta of just 0.87. The fund took below-market risk and still generated strong excess returns. Kotak Large Cap and SBI Large Cap posted alphas of 5.51% and 5.50%. SBI Large Cap kept its beta the lowest at 0.82. Canara Robeco, Aditya Birla Sun Life, and UTI Large Cap also recorded positive alphas ranging from 4.82% down to 3.31%. Nine out of ten funds beat the expected return. It was a year where active management largely paid off.

Only one fund failed to meet expectations. Axis Large Cap managed a very slim alpha of 0.35%. Its return of 18.11% was just about in line with what its beta of 0.85 would predict. Mirae Asset Large Cap was the sole fund in negative territory. It recorded an alpha of -1.00%. The fund returned 17.74% with a beta of 0.93. Given its near-market sensitivity, the expected return was higher. The fund simply could not keep pace. The 2023 Jensen's Alpha data highlights a simple truth. Even in a rising market, not every

fund manager can outperform on a risk-adjusted basis. Nippon India Large Cap led the way by converting its market exposure into superior returns. A positive alpha remains the clearest sign of genuine fund manager skill.

Table 4.24 Jensen's Alpha of Large Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Alpha	Rank
2024	Canara Robeco Large Cap	19.72	0.9143	6.68	11.23	8.88	1
2024	Nippon India Large Cap	18.51	0.9644	6.68	11.23	7.44	2
2024	ICICI Prudential Large Cap	18.08	0.8867	6.68	11.23	7.37	3
2024	Kotak Large Cap	18.14	0.9287	6.68	11.23	7.23	4
2024	ABSL Large Cap	16.77	0.9274	6.68	11.23	5.87	5
2024	Axis Large Cap	15.33	0.6643	6.68	11.23	5.63	6
2024	SBI Large Cap	13.84	0.5079	6.68	11.23	4.85	7
2024	UTI Large Cap	12.81	0.822	6.68	11.23	2.39	8
2024	Mirae Asset Large Cap	13.13	0.8956	6.68	11.23	2.38	9
2024	HDFC Large Cap	12.63	0.9758	6.68	11.23	1.51	10

The year 2024 was a year of moderate gains for large cap funds. The market return stood at 11.23%. The risk-free rate was elevated at 6.68%. Canara Robeco Large Cap surprised everyone by claiming the top spot. It delivered an alpha of 8.88%. The fund earned a return of 19.72% with a beta of 0.91. This means it generated returns well above what its market sensitivity would predict. Nippon India Large Cap followed with an alpha of 7.44%. It returned 18.51% and carried a beta of 0.96. ICICI Prudential Large Cap and Kotak Large Cap came next with alphas of 7.37% and 7.23%. Both funds kept their betas below 0.93 and still delivered returns above 18%. Aditya Birla Sun Life Large Cap and Axis Large Cap also recorded positive alphas of 5.87% and 5.63%. Axis Large Cap had the second lowest beta at 0.66. Its return of 15.33% was modest, but the low market risk helped it beat expectations.

The lower half of the table showed more modest outcomes. SBI Large Cap posted an alpha of 4.85%. It recorded the lowest beta in the entire group at just 0.51. Its return of 13.84% was on the lower side. Yet given such low market sensitivity, it still managed to beat the expected return. UTI Large Cap and Mirae Asset Large Cap recorded alphas of 2.39% and 2.38%. Their returns were around 12.81% and 13.13%. HDFC Large Cap brought up the rear with an alpha of 1.51%. It delivered the lowest return of 12.63% while carrying the highest beta of 0.98. The fund took near-market risk but failed to

generate adequate excess return. The 2024 Jensen's Alpha data shows that all ten funds managed to stay in positive territory. This is a rare and welcome outcome. It means every fund manager added some value over and above what the market risk would predict. Canara Robeco led the way with a particularly strong showing.

Table 4.25 Jensen's Alpha of Large Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Alpha	Rank
2025	ICICI Prudential Large Cap	11.35	0.8909	5.80	10.08	1.74	1
2025	SBI Large Cap	9.53	0.6557	5.80	10.08	0.92	2
2025	ABSL Large Cap	9.76	0.9138	5.80	10.08	0.05	3
2025	Mirae Asset Large Cap	9.81	0.9684	5.80	10.08	-0.13	4
2025	Kotak Large Cap	9.39	0.9552	5.80	10.08	-0.50	5
2025	UTI Large Cap	8.92	0.9117	5.80	10.08	-0.78	6
2025	Nippon India Large Cap	8.68	0.975	5.80	10.08	-1.29	7
2025	HDFC Large Cap	8.19	0.9236	5.80	10.08	-1.56	8
2025	Canara Robeco Large Cap	8.13	0.9414	5.80	10.08	-1.70	9
2025	Axis Large Cap	6.68	0.6324	5.80	10.08	-1.83	10

The year 2025 was a quiet one for large cap funds, and Jensen's Alpha reflects the struggle to beat expectations. The market return was a modest 10.08%. The risk-free rate stood at 5.80%. With such a narrow gap between market and risk-free returns, generating a meaningful alpha became very difficult. ICICI Prudential Large Cap managed to top the table with an alpha of 1.74%. It delivered a return of 11.35% with a beta of 0.89. The fund earned slightly more than what its market sensitivity would predict. SBI Large Cap followed with an alpha of 0.92%. Its return was a modest 9.53%. However, its beta was the lowest in the group at just 0.66. This defensive stance helped it beat the expected return despite a lower absolute gain. Aditya Birla Sun Life Large Cap barely stayed in positive territory with an alpha of 0.05%. It returned 9.76% on a beta of 0.91. After these three, every other fund slipped into the red.

The remaining seven funds recorded negative alphas. Mirae Asset Large Cap, Kotak Large Cap, and UTI Large Cap posted alphas between -0.13% and -0.78%. Their returns were in the range of 9.81% to 8.92%. These were decent absolute numbers but fell short of expectations given their betas. Nippon India Large Cap, HDFC Large Cap, and Canara Robeco Large Cap recorded alphas around -1.29% to -1.70%. Axis Large Cap ranked last with an alpha of -1.83%. It returned just 6.68% with a beta of 0.63. The

low beta offered no protection when the return itself was so weak. The 2025 Jensen's Alpha data tells a clear story. When the market offers thin pickings, even skilled fund managers find it hard to add value. ICICI Prudential and SBI did just enough to stay ahead of expectations

Table 4.26 Jensen's Alpha Rank (1 = Highest) for Large Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
UTI Large Cap	2	9	8	8	6
ICICI Prudential Large Cap	3	3	3	3	1
Kotak Large Cap	4	6	4	4	5
Nippon India Large Cap	1	1	1	2	7
Aditya Birla Sun Life Large Cap	5	5	7	5	3
Mirae Asset Large Cap	6	8	10	9	4
Canara Robeco Large Cap	8	7	6	1	9
HDFC Large Cap	7	2	2	10	8
SBI Large Cap	9	4	5	7	2
Axis Large Cap	10	10	9	6	10

Jensen's Alpha measures the excess return a fund generates beyond what its level of market risk would normally predict. A consistently high rank on this measure indicates that the fund manager has repeatedly added value through thoughtful stock selection rather than simply riding market movements. The five-year ranking data offers a clear view of which funds have demonstrated this skill on a sustained basis. ICICI Prudential Large Cap presents the most impressive picture of stability. It maintained the third rank for four consecutive years from 2021 through 2024, and then rose to the top position in 2025. Such unwavering placement near the very top of the table is uncommon and speaks to a disciplined investment process that works across different market environments. Nippon India Large Cap dominated the early part of the period, securing the first rank in 2021, 2022, and 2023. However, its performance moderated in the later years, slipping to second place in 2024 and then falling more noticeably to seventh in 2025. This trajectory suggests that while the fund excelled during the initial recovery and growth phases, it faced greater challenges in the more subdued market conditions of recent years. Kotak Large Cap maintained a steady presence in the upper middle of the table, with ranks of four and five across all five years. This consistency, though not spectacular, reflects a reliable ability to meet or modestly exceed expectations.

The rankings also reveal funds that have struggled to generate sustained excess returns. Axis Large Cap occupied the tenth position in four of the five years under review. The only exception was a sixth-place finish in 2024. Such persistent placement at the bottom indicates a fundamental challenge in delivering returns that justify the market risk undertaken. Mirae Asset Large Cap similarly spent most of the period in the lower half, though its rise to fourth place in 2025 may point toward recent improvement. Canara Robeco Large Cap and UTI Large Cap each experienced a sharp but short-lived peak in performance. Canara Robeco claimed the top rank in 2024 but fell back to ninth the following year. UTI Large Cap began the period strongly in second place during 2021 but gradually drifted downward thereafter. HDFC Large Cap showed considerable variation, moving from seventh in 2021 to second in both 2022 and 2023, only to drop to tenth in 2024 before a partial recovery to eighth in 2025. SBI Large Cap displayed a more encouraging pattern, improving from ninth place in 2021 to a strong second-place finish in 2025. The overall evidence from the Jensen's Alpha rankings underscores an important lesson. A fund that can consistently rank among the top performers over multiple years offers a degree of confidence that a single exceptional year cannot provide. ICICI Prudential Large Cap stands as the clearest example of this rare and valuable consistency.

4.1.7 Fama Net Selectivity Ratio of Large Cap Schemes

Table 4.27 Fama Decomposition – Net Selectivity of Large Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2021	Motilal Oswal Midcap	59.33	42.28	46.69	12.64	4.41	1
2021	SBI Midcap	54.14	41.23	43.94	10.20	2.71	2
2021	Kotak Midcap	49.03	38.60	40.20	8.83	1.60	3
2021	Mirae Asset Midcap	50.92	42.28	44.22	6.70	1.94	4
2021	Edelweiss Mid Cap	51.53	46.06	47.38	4.15	1.31	5
2021	Nippon India Growth Mid Cap	47.99	44.48	45.88	2.11	1.40	6
2021	Axis Midcap	42.5	37.99	40.64	1.86	2.65	7

2021	HDFC Mid Cap	39.77	42.70	44.22	-4.45	1.52	8
2021	Sundaram Mid Cap	39.15	43.99	45.47	-6.32	1.48	9
2021	DSP Midcap	30.16	38.50	40.10	-9.94	1.61	10

Fama decomposition breaks down a fund's total return into different parts. It separates the return that comes from market risk from the return that comes from the fund manager's skill. Net selectivity measures the value added purely through stock picking. The diversification component shows the benefit of holding a well-spread portfolio. In 2021, the mid cap segment delivered exceptional returns. Motilal Oswal Midcap topped the table with a net selectivity of 12.64%. This means the fund manager added substantial value beyond what market exposure would provide. Its diversification score of 4.41% was also the highest. The fund earned a total return of 59.33%. SBI Midcap followed with a net selectivity of 10.20% and a diversification score of 2.71%. Kotak Midcap and Mirae Asset Midcap also posted healthy net selectivity figures of 8.83% and 6.70%. These four funds clearly benefited from strong stock selection and prudent diversification.

Edelweiss Mid Cap, Nippon India Growth Mid Cap, and Axis Midcap recorded positive but more modest net selectivity. Their scores ranged from 4.15% down to 1.86%. They added some value, but not as much as the top performers. The lower half of the table tells a different story. HDFC Mid Cap, Sundaram Mid Cap, and DSP Midcap all posted negative net selectivity. This means their stock picks actually detracted from returns. DSP Midcap had the weakest showing with a net selectivity of -9.94%. Its total return of 30.16% was the lowest. The diversification scores were positive across all funds. This shows that spreading investments helped everyone to some extent. But stock selection was the real differentiator. The 2021 Fama data makes one thing clear. In a bull market, a fund manager's ability to pick the right stocks separates the leaders from the laggards. Motilal Oswal Midcap demonstrated this skill most effectively.

Table 4.28 Fama Decomposition – Net Selectivity of Large Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2022	HDFC Mid Cap	12.15	2.78	2.71	9.44	-0.07	1
2022	Motilal Oswal Midcap	10.24	2.92	2.65	7.59	-0.27	2
2022	Nippon India Growth Mid Cap	6.05	2.74	2.70	3.35	-0.04	3
2022	Kotak Midcap	5.8	2.97	2.91	2.89	-0.06	4
2022	Mirae Asset Midcap	5.14	2.89	2.83	2.31	-0.06	5
2022	Sundaram Mid Cap	4.82	2.75	2.70	2.12	-0.05	6
2022	Edelweiss Mid Cap	3.87	2.66	2.61	1.26	-0.05	7
2022	SBI Midcap	2.29	2.95	2.85	-0.56	-0.10	8
2022	Axis Midcap	-4.68	2.95	2.87	-7.55	-0.08	9
2022	DSP Midcap	-4.8	2.93	2.87	-7.67	-0.06	10

The year 2022 was a testing time for mid cap funds. Fama decomposition helps us see where the returns really came from. Net selectivity tells us how much value the fund manager added through stock picking. HDFC Mid Cap stood at the top with a net selectivity of 9.44%. This was a solid number in a difficult year. The fund delivered a total return of 12.15%. Its stock selection clearly made the difference. Motilal Oswal Midcap followed with a net selectivity of 7.59%. It returned 10.24%. Nippon India Growth Mid Cap, Kotak Midcap, Mirae Asset Midcap, Sundaram Mid Cap, and Edelweiss Mid Cap also posted positive net selectivity. Their scores ranged from 3.35% down to 1.26%. These fund managers managed to add some value even when the market was flat. The diversification component was negative for all funds but very small in size. This was not a major factor in 2022.

SBI Midcap slipped into negative net selectivity with a score of -0.56%. Its total return of 2.29% was below what its risk profile would suggest. Axis Midcap and DSP Midcap had a very difficult year. They recorded net selectivity scores of -7.55% and - 7.67%. Both funds posted absolute losses of around -4.70%. Their stock picks hurt investors rather than helped them. The 2022 Fama data drives home an important point.

When the market offers little, a fund manager's stock selection skill becomes the only real source of extra return. HDFC Mid Cap and Motilal Oswal Midcap showed that careful picking can still yield decent results even in a tough environment. A negative net selectivity, on the other hand, means the manager's choices worked against the investor.

Table 4.29 Fama Decomposition – Net Selectivity of Large Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2023	Nippon India Growth Mid Cap	49.23	40.72	41.94	7.29	1.23	1
2023	HDFC Mid Cap	43.6	40.64	42.58	1.02	1.94	2
2023	Sundaram Mid Cap	41.85	40.39	41.68	0.17	1.28	3
2023	DSP Midcap	39.49	37.64	40.14	-0.65	2.50	4
2023	SBI Midcap	35.81	34.50	38.07	-2.26	3.57	5
2023	Edelweiss Mid Cap	39.91	39.99	42.71	-2.80	2.72	6
2023	Motilal Oswal Midcap	42.52	36.82	45.52	-3.00	8.71	7
2023	Kotak Midcap	32.66	34.44	36.66	-4.00	2.23	8
2023	Mirae Asset Midcap	36.31	39.10	40.81	-4.50	1.70	9
2023	Axis Midcap	30.26	34.18	37.13	-6.87	2.95	10

The year 2023 brought a strong recovery for mid cap funds. Fama decomposition helps separate the return from market exposure and the return from fund manager skill. Net selectivity tells us how much value the manager added through stock selection. Nippon India Growth Mid Cap topped the table with a net selectivity of 7.29%. It delivered a total return of 49.23%. The fund manager's stock picks clearly added meaningful value. HDFC Mid Cap followed with a net selectivity of 1.02%. Sundaram Mid Cap barely stayed positive at 0.17%. These three funds were the only ones to record positive net selectivity. The diversification component was positive for all ten funds. This shows that spreading investments across different stocks helped everyone to some extent. But stock selection was the real differentiator.

The remaining seven funds posted negative net selectivity. DSP Midcap came close to breakeven at -0.65%. SBI Midcap, Edelweiss Mid Cap, and Motilal Oswal Midcap recorded scores between -2.26% and -3.00%. Motilal Oswal Midcap had an

interesting profile. Its total return was a strong 42.52%. But its diversification component of 8.71% was the highest among all funds. This suggests the fund benefited more from broad portfolio diversification than from individual stock selection. Kotak Midcap and Mirae Asset Midcap posted net selectivity scores around -4.00% and -4.50%. Axis Midcap ranked last with a net selectivity of -6.87%. Its total return of 30.26% was the lowest. The 2023 Fama data shows that even in a rising market, not every fund manager adds value through stock picking. Nippon India Growth Mid Cap stood out by combining strong stock selection with good diversification.

Table 4.30 Fama Decomposition – Net Selectivity of Large Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2024	Motilal Oswal Midcap	59.61	18.87	21.01	38.60	2.14	1
2024	Edelweiss Mid Cap	40.85	16.30	21.68	19.17	5.38	2
2024	Kotak Midcap	35.63	19.88	20.45	15.18	0.57	3
2024	Axis Midcap	31.97	16.46	19.51	12.46	3.05	4
2024	Sundaram Mid Cap	32.61	19.82	20.30	12.31	0.48	5
2024	HDFC Mid Cap	28.25	19.71	20.18	8.07	0.47	6
2024	Nippon India Growth Mid Cap	27.65	20.84	21.28	6.37	0.43	7
2024	DSP Midcap	23.8	19.43	19.99	3.81	0.56	8
2024	SBI Midcap	21.45	13.31	17.82	3.63	4.51	9
2024	Mirae Asset Midcap	20.39	19.64	20.21	0.18	0.58	10

The year 2024 was another year of strong gains for mid cap funds. Fama decomposition helps us understand where the returns actually came from. Net selectivity measures the value added purely through the fund manager's stock picking skill. Motilal Oswal Midcap delivered an extraordinary performance. Its net selectivity stood at 38.60%. This was far ahead of every other fund. The fund earned a total return of 59.61%. The manager's stock picks clearly drove the bulk of this gain. Edelweiss Mid Cap came a distant second with a net selectivity of 19.17%. Kotak Midcap, Axis Midcap, and Sundaram Mid Cap also posted healthy net selectivity scores above 12%. The diversification component was positive for all funds. This shows that spreading

investments across different stocks helped everyone to some degree. But stock selection was the real story of 2024.

HDFC Mid Cap and Nippon India Growth Mid Cap recorded net selectivity scores of 8.07% and 6.37%. They added value, though not as much as the top performers. DSP Midcap and SBI Midcap posted modest scores of 3.81% and 3.63%. SBI Midcap had an interesting profile. Its diversification component of 4.51% was among the highest. This means the fund benefited nicely from a well-spread portfolio. Mirae Asset Midcap brought up the rear with a net selectivity of just 0.18%. It barely added any value through stock selection. Its total return of 20.39% was the lowest. The 2024 Fama data shows a wide gap in fund manager skill. Motilal Oswal Midcap was in a league of its own. The ability to pick winning stocks made all the difference between a good year and a great one.

Table 4.31 Fama Decomposition – Net Selectivity of Large Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2025	Mirae Asset Midcap	9.79	5.89	5.89	3.90	0.00	1
2025	HDFC Mid Cap	6.82	5.88	5.88	0.94	0.00	2
2025	Edelweiss Mid Cap	4.86	5.89	5.89	-1.03	0.00	3
2025	Sundaram Mid Cap	4.74	5.89	5.89	-1.15	0.00	4
2025	Nippon India Growth Mid Cap	4.22	5.89	5.89	-1.67	0.00	5
2025	Kotak Midcap	2.41	5.89	5.89	-3.48	0.00	6
2025	DSP Midcap	2.36	5.89	5.89	-3.53	0.00	7
2025	Axis Midcap	1.91	5.86	5.89	-3.98	0.02	8
2025	SBI Midcap	1.2	5.85	5.87	-4.67	0.02	9
2025	Motilal Oswal Midcap	-11.57	5.89	5.90	-17.47	0.01	10

The year 2025 was a sobering one for mid cap funds, and Fama decomposition reveals where the returns actually came from. Net selectivity tells us how much value the fund manager added through stock picking. Only two funds managed to stay in positive territory. Mirae Asset Midcap topped the table with a net selectivity of 3.90%. It earned

a total return of 9.79%. The fund manager's stock picks added some value in an otherwise difficult year. HDFC Mid Cap followed with a net selectivity of 0.94%. Its return of 6.82% was modest, but the manager at least did not detract from returns. The diversification component was virtually zero for all funds. This means spreading investments across different stocks provided almost no benefit in 2025. The market was so narrow that diversification simply did not help. Everything came down to individual stock selection.

The remaining eight funds posted negative net selectivity. Edelweiss Mid Cap, Sundaram Mid Cap, and Nippon India Growth Mid Cap recorded scores between -1.03% and -1.67%. Their stock picks worked against investors. Kotak Midcap, DSP Midcap, and Axis Midcap fared worse with scores around -3.50% to -3.98%. SBI Midcap recorded a net selectivity of -4.67%. Its total return of just 1.20% was very weak. The most painful outcome came from Motilal Oswal Midcap. After topping the chart in 2024 with a stellar net selectivity of 38.60%, it crashed to the very bottom with -17.47%. The fund lost 11.57% in absolute terms. The manager's stock picks severely hurt investors. The 2025 Fama data serves as a stark reminder. In a tough market, a fund manager's stock selection skill is everything. Mirae Asset Midcap managed to stay afloat when most others sank. The high-flyer of 2024 came crashing down, showing how quickly fortunes can change in the mid cap space.

Table 4.32 FAMA Net Selectivity Rank (1 = Highest) for Large Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
UTI Large Cap	1	9	8	9	6
ICICI Prudential Large Cap	3	3	3	3	1
Kotak Large Cap	4	6	4	4	5
Nippon India Large Cap	2	1	1	2	7
Aditya Birla Sun Life Large Cap	5	5	7	5	2
Mirae Asset Large Cap	6	8	10	8	3
Canara Robeco Large Cap	8	7	6	1	9
HDFC Large Cap	7	2	2	10	8
SBI Large Cap	9	4	5	7	4
Axis Large Cap	10	10	9	6	10

Fama's Net Selectivity measures the value a fund manager adds purely through individual stock selection, after removing the effects of market movements and

portfolio diversification. A consistently high rank on this measure indicates that the manager has a genuine and repeatable skill in picking winning stocks. The five-year ranking data offers a revealing picture of which funds have demonstrated this ability on a sustained basis. ICICI Prudential Large Cap stands apart for its remarkable steadiness. It maintained the third rank for four straight years from 2021 to 2024, and then moved up to the top position in 2025. Such unwavering placement near the top of the table is rare and suggests a disciplined stock selection process that works reliably across different market phases. Nippon India Large Cap showed strong performance in the early years, securing the first rank in 2022 and 2023 after a second-place finish in 2021. However, its ranking fell to seventh in 2025, indicating some loss of momentum in the more recent period. Kotak Large Cap remained a steady performer, holding ranks of four or five throughout all five years. This consistency, while not placing it at the very top, reflects a dependable ability to add value through stock selection year after year. Aditya Birla Sun Life Large Cap showed an encouraging upward trend, improving from mid-table positions to a strong second-place finish in 2025.

The lower portion of the ranking table highlights funds that have faced greater challenges in generating sustained stock selection gains. Axis Large Cap occupied the tenth and final position in four of the five years. The only exception was a ninth-place finish in 2023 and a sixth-place showing in 2024. This persistent placement at or near the bottom points to ongoing difficulty in picking stocks that outperform expectations. Mirae Asset Large Cap also spent most of the period in the lower half, though its rise to third place in 2025 may signal a welcome improvement. Canara Robeco Large Cap experienced a dramatic but brief peak, claiming the top rank in 2024 before falling back to ninth in 2025. UTI Large Cap began the period as the top-ranked fund in 2021 but then saw its ranks decline to the middle and lower end of the table. HDFC Large Cap displayed considerable volatility, moving from seventh in 2021 to second in both 2022 and 2023, only to drop sharply to tenth in 2024 before a partial recovery to eighth in 2025. SBI Large Cap showed a pattern of gradual improvement, moving from ninth place in 2021 to a respectable fourth in 2024 and 2025. The overall evidence from the Fama Net Selectivity rankings reinforces a simple but important truth. A fund that can consistently rank among the top performers over multiple years provides a degree of confidence that a single standout year cannot offer. ICICI Prudential Large Cap exemplifies this rare and valuable quality, while several other funds have struggled to maintain their early success.

4.1.8 PE Ratio wise Large Cap Scheme Analysis

Table 4.33 PE Ratios of Large Cap Schemes from Top 10 Holdings (2020–2025)

Scheme	2020	2021	2022	2023	2024	2025	Average
SBI Large Cap Fund	27.70	26.28	23.01	30.55	26.64	25.61	26.63
Mirae Asset Large Cap Fund	25.20	32.96	30.41	24.07	23.70	22.88	26.54
ICICI Prudential Large Cap Fund	29.41	37.67	32.49	26.39	25.32	24.01	29.21
Nippon India Large Cap Fund	23.73	36.52	22.58	19.19	25.69	22.04	24.96
HDFC Large Cap Fund	21.81	24.08	21.78	22.84	23.87	29.06	23.91
Axis Large Cap Fund	48.40	59.24	49.29	42.59	26.56	25.24	41.89
Aditya Birla Sun Life Large Cap Fund	25.12	36.49	28.35	23.59	24.45	22.26	26.71
UTI Large Cap Fund	25.82	41.00	31.80	36.99	30.71	24.86	31.86
Kotak Large Cap Fund	29.53	28.53	23.93	22.93	23.11	22.04	25.01
Canara Robeco Large Cap Fund	27.11	31.07	27.81	28.84	24.16	24.25	27.20

The table reveals notable valuation dispersion among large cap funds over 2020–2025. Axis Large Cap Fund stands out with an average P/E of 41.89, rising from 48.40 in 2020 to 59.24 in 2021 before cooling to around 25 in recent years. This suggests the fund historically held richly valued growth stocks, though its valuation multiple has since moderated. UTI Large Cap Fund (avg. 31.86) and ICICI Prudential Large Cap Fund (avg. 29.21) also trade at above-average multiples, indicating a tilt towards higher-growth, premium-priced companies. In contrast, HDFC Large Cap Fund (avg. 23.91) and Nippon India Large Cap Fund (avg. 24.96) show lower P/E ratios, implying a more value-oriented or cyclically-exposed portfolio. The majority of funds, including SBI (26.63), Mirae Asset (26.54), and Canara Robeco (27.20), cluster around a moderate range of 26–27x. Interestingly, most schemes witnessed a P/E peak in 2021–2022, followed by a gradual decline through 2025 – possibly reflecting market-

wide de-rating or a shift away from expensive growth stocks. Investors should note that a higher P/E is not inherently better; it often signals higher growth expectations but also greater vulnerability to earnings disappointments.

Table 4.34 Ranking of Large Cap Schemes as per PE (2020–2025)

Scheme	2020	2021	2022	2023	2024	2025	Average
SBI Large Cap Fund	4	9	8	3	2	2	6
Mirae Asset Large Cap Fund	7	6	4	6	9	7	7
ICICI Prudential Large Cap Fund	3	3	2	5	5	6	3
Nippon India Large Cap Fund	9	4	9	10	4	10	9
HDFC Large Cap Fund	10	10	10	9	8	1	10
Axis Large Cap Fund	1	1	1	1	3	3	1
Aditya Birla Sun Life Large Cap Fund	8	5	5	7	6	8	5
UTI Large Cap Fund	6	2	3	2	1	4	2
Kotak Large Cap Fund	2	8	7	8	10	9	8
Canara Robeco Large Cap Fund	5	7	6	4	7	5	4

The ranking data reveals clear and persistent patterns in how large cap funds are positioned on the valuation spectrum. Axis Large Cap Fund consistently commands the highest P/E ratio, securing rank 1 in four consecutive years (2020–2023) and slipping only to rank 3 in 2024–2025. Its average rank of 1 underscores a steadfast tilt toward expensive, high-growth stocks. At the opposite end, HDFC Large Cap Fund ranks lowest (10th) in five out of six years, with an average rank of 10 – a strong signal of a value-oriented, low-multiple portfolio. However, its surprising jump to rank 1 in 2025 suggests a possible strategic shift or portfolio churn that temporarily lifted its valuation. UTI Large Cap Fund emerges as the second most expensive on average (rank 2), with a clear upward trend: from rank 6 in 2020 to ranks 2,3,2,1 in subsequent years, before settling at rank 4 in 2025. ICICI Prudential Large Cap Fund (average rank 3) has remained consistently among the top tier, never falling below rank 6. Canara

Robeco (avg 4) and Aditya Birla Sun Life (avg 5) occupy a middle-to-upper valuation zone.

On the lower end, Nippon India Large Cap Fund (avg rank 9) and Kotak Large Cap Fund (avg 8) are consistently among the cheapest, though Nippon India shows occasional volatility – rank 4 in 2021 and 2024, but rank 10 in 2023 and 2025. SBI Large Cap Fund (avg 6) has become more expensive recently (ranks 3,2,2 in 2023–2025), while Mirae Asset (avg 7) has drifted toward lower ranks over time.

Overall, the rankings exhibit strong persistence: funds like Axis and UTI consistently rank high (expensive), while HDFC, Nippon India, and Kotak rank low (cheap) for most years. Investors who favor growth-oriented, high-multiple portfolios may gravitate towards the former; those seeking valuation comfort and margin of safety may prefer the latter.

Table 4.35 Performance Metrics by Valuation Category (Low, Moderate, High P/E) – Year-wise (2021–2025)

Year	Category	PE PY	Q1 Return	Annual Return (%)	Sharpe	Treynor	Jensen	Net Selectivity (FAMA)
2021	Low	23.55	8.56	31.49	1.77	28.12	5.05	4.34
	Moderate	26.46	6.99	29.41	1.72	26.95	3.73	3.37
	High	35.78	5.88	28.63	1.70	26.83	3.51	3.04
2022	Low	26.30	-0.37	5.69	0.06	1.05	2.97	3.01
	Moderate	34.26	-0.81	3.91	-0.06	-1.00	1.22	1.25
	High	45.97	-1.87	-0.32	-0.31	-5.42	-3.08	-3.04
2023	Low	22.46	-2.54	28.18	2.33	23.58	9.86	9.38
	Moderate	27.62	-3.65	21.96	1.66	16.65	3.50	3.16
	High	45.97	-1.87	-0.32	-0.31	-5.42	-3.08	-3.04
2024	Low	21.66	6.41	16.43	0.68	10.23	5.40	5.34
	Moderate	25.72	5.85	16.93	0.75	11.30	6.12	6.07
	High	36.71	4.84	13.99	0.57	11.53	4.29	3.41
2025	Low	23.56	-3.86	9.13	0.28	3.50	-0.73	-0.83
	Moderate	25.72	5.85	16.93	0.75	11.30	6.12	6.07
	High	27.97	-3.35	8.38	0.23	3.50	-0.56	-1.41

The table reveals how large cap funds with different valuation profiles – Low P/E (cheapest, ranks 8–10), Moderate P/E (ranks 4–7), and High P/E (most expensive, ranks 1–3) – performed across varying market conditions. The most striking finding is

that lower P/E categories consistently delivered higher returns and better risk-adjusted metrics in most years, challenging the notion that paying a premium for growth always pays off.

2021 – A Rising Market

In 2021, all three categories delivered healthy returns (28–31%). However, Low P/E funds outperformed with an annual return of 31.49%, followed by Moderate (29.41%) and High (28.63%). The Sharpe and Treynor ratios followed the same order: Low (1.77, 28.12) > Moderate (1.72, 26.95) > High (1.70, 26.83). More importantly, Jensen's alpha and net selectivity were positive across all groups, but again highest for Low P/E (5.05 and 4.34) versus High (3.51 and 3.04). This suggests that in a bullish year, value-oriented large cap funds not only delivered better returns but also demonstrated superior manager skill beyond market and factor exposures.

2022 – A Challenging Year

The year 2022 was difficult, with most categories delivering low single-digit or negative returns. Low P/E funds held up best (5.69% annual return), while Moderate returned 3.91% and High P/E funds lost 0.32%. Sharpe and Treynor turned slightly positive only for Low P/E (0.06, 1.05), while High P/E posted negative risk-adjusted ratios (-0.31, -5.42). Jensen's alpha remained positive for Low (2.97) and Moderate (1.22), but turned negative for High (-3.08). Net selectivity followed the same pattern. Thus, in a down market, cheaper valuations provided a clear buffer, while expensive funds suffered both absolute losses and poor risk-adjusted performance.

2023 – A Strong Rebound (with a Data Anomaly)

In 2023, the market rebounded sharply. Low P/E funds again led with a 28.18% return, followed by Moderate at 21.96%. However, the High P/E category repeats the same negative return as 2022 (-0.32%) – this is almost certainly a data anomaly or a copy-paste error, as it is unlikely the same funds would have identical returns two years in a row. Accepting the table as given, Low P/E funds delivered an excellent Sharpe (2.33) and very high Jensen alpha (9.86) and net selectivity (9.38), indicating extraordinary manager skill or a powerful value rally. Moderate funds also performed well but with lower alphas. The anomalous High P/E data, if ignored, would likely show

a rebound as well, but the table suggests a catastrophic year for expensive funds – which seems implausible. For interpretation, we focus on the reliable Low and Moderate comparison, where Low P/E clearly excelled.

2024 – A Moderately Positive Year

All categories delivered positive but more modest returns (14–17%). Moderate P/E funds narrowly edged ahead with 16.93% versus Low (16.43%) and High (13.99%). Sharpe and Treynor were also slightly better for Moderate (0.75, 11.30) compared to Low (0.68, 10.23) and High (0.57, 11.53). Jensen's alpha and net selectivity were positive across all, but highest for Moderate (6.12, 6.07), followed by Low (5.40, 5.34) and High (4.29, 3.41). This suggests that in a calmer, less extreme market, moderately valued funds offered the best risk-adjusted skill, though differences were small.

2025 – Mixed Signals (with Potential Data Repetition)

The 2025 data shows Low P/E with 9.13% annual return, High P/E with 8.38%, while Moderate repeats the 2024 numbers (16.93%) – again likely a data placeholder. Assuming the Moderate numbers are accurate, they would have outperformed significantly. However, looking at the reported Low and High, both had similar Q1 negative returns (-3.86% for Low, -3.35% for High) and similar annual returns (9.13% vs 8.38%). Sharpe and Treynor were very low positive (0.28, 3.50) for both, and Jensen alpha turned slightly negative for Low (-0.73) and High (-0.56), while net selectivity was also negative. This indicates a challenging year where no valuation category delivered strong skill-based returns, though Moderate (if real) stood out as an exception.

Overall Summary for Large Cap Funds

- Low P/E large cap funds (cheapest) demonstrated remarkable consistency. They led in absolute returns in 2021, 2022, and 2023, and were competitive in 2024 and 2025. Their Sharpe and Treynor ratios were often highest, and they frequently posted the best Jensen alphas and net selectivity. This challenges the common belief that expensive growth funds outperform in bull markets – here, value actually won even in 2021.
- Moderate P/E funds performed respectably across all years, occasionally taking the lead (as in 2024) and providing a middle ground. They never suffered as severely as High P/E funds in down years like 2022.

- High P/E large cap funds consistently lagged. Even in the strong market of 2021, they delivered the lowest returns and worst risk-adjusted metrics. In 2022, they were the only category to post negative returns. The anomalous 2023 data aside, their underperformance across multiple environments suggests that paying the highest valuations in the large cap space has historically not been rewarded – at least in this sample.

For large cap fund investors, a value-oriented or moderate valuation approach appears superior to chasing the most expensive funds. Low P/E funds provided downside protection in weak years and competitive upside in strong years, often with better manager skill signals. The data strongly cautions against assuming that high P/E equals high return. Instead, a disciplined focus on valuation discipline – without going to extremes – may offer the most prudent path forward. Of course, past performance does not guarantee future results, and the data anomalies (2023 High, 2025 Moderate) remind us to verify numbers before making investment decisions. Nevertheless, the clear pattern across four of five years is worth careful consideration.

Table 4.36 Average Ratio Scheme-wise for Five Years (Large Cap)

Cate- gory	Scheme	PE PY	Q1 Retur n	Annua l Retur n (%)	Sharp e	Treyno r	Jense n	Net Selectivit y (FAMA)
Low	HDFC Large Cap	22.88	2.32	18.36	1.01	13.22	4.48	4.19
	Nippon India Large Cap	25.54	2.48	20.56	1.17	15.49	6.74	6.43
	Kotak Large Cap	25.61	0.78	16.90	0.95	12.44	3.61	3.46
Moderate	SBI Large Cap	26.84	0.83	15.70	0.87	12.61	2.82	2.09
	Mirae Asset Large Cap	27.27	-0.29	14.11	0.69	9.20	0.65	0.48
	Aditya Birla Sun Life Large Cap	27.60	0.72	16.67	0.91	11.86	3.15	3.01
	Canara Robeco Large Cap	27.80	0.76	16.06	0.88	11.43	2.68	2.55
High	ICICI Prudential Large Cap	30.25	2.26	19.02	1.14	14.93	5.75	5.56
	UTI Large Cap	33.26	-0.01	14.68	0.78	10.08	1.41	1.19
	Axis Large Cap	45.22	-0.38	11.62	0.54	7.51	-1.20	-1.94

The above table presents ten large-cap mutual fund schemes grouped into three valuation categories—Low, Moderate, and High—based on their portfolio’s price-to-earnings (PE) ratio for the past year. Among the low-PE schemes (PE ranging from 22.88 to 25.61), Nippon India Large Cap recorded the highest annual return of 20.56% along with superior risk-adjusted metrics (Sharpe 1.17, Treynor 15.49, Jensen 6.74), indicating that a relatively undervalued portfolio did not hamper performance. HDFC Large Cap, with the lowest PE of 22.88, also delivered a strong annual return of 18.36% and a positive Jensen’s alpha of 4.48. Kotak Large Cap, though showing a modest first-quarter return of 0.78%, still generated a commendable 16.90% annual return with a Sharpe ratio of 0.95. In the moderate-PE category (PE 26.84 to 27.80), performance was somewhat mixed: SBI Large Cap (PE 26.84) produced a 15.70% annual return, while Mirae Asset Large Cap (PE 27.27) recorded a negative first-quarter

return of –0.29% and the lowest annual return (14.11%) among moderate-PE funds, suggesting that a moderately higher valuation does not guarantee better outcomes. Within the high-PE category (PE 30.25 to 45.22), ICICI Prudential Large Cap stood out with a 19.02% annual return and strong risk-adjusted measures (Sharpe 1.14, Treynor 14.93, Jensen 5.75), despite its elevated PE of 30.25. In contrast, Axis Large Cap (PE 45.22) exhibited the poorest performance across all schemes—an annual return of only 11.62%, negative Jensen’s alpha (–1.20), and the lowest Sharpe ratio (0.54) and Treynor ratio (7.51). UTI Large Cap (PE 33.26) also underperformed with a 14.68% annual return and a negligible first-quarter return of –0.01%. Overall, the table reveals that low-PE funds generally outperformed or matched high-PE funds, and that an excessively high portfolio valuation (as seen in Axis Large Cap) is associated with inferior risk-adjusted returns.

Table 4.37 Average Performance as per PE Category for Large Cap

Category	PE PY	Q1 Retur n	Annua l Return (%)	Sharp e	Treyno r	Jensen	Net Selectivit y (FAMA)
Low	24.68	1.86	18.61	1.05	13.72	4.95	4.69
Moderate	27.37	0.50	15.64	0.84	11.27	2.32	2.03
High	36.24	0.62	15.10	0.82	10.84	1.98	1.60

The above table aggregates the schemes into three valuation categories—Low, Moderate, and High—by averaging their respective PE ratios and performance indicators. The low-PE category (average PE 24.68) achieved the highest annual return (18.61%) and the best risk-adjusted performance across all metrics: Sharpe ratio of 1.05, Treynor ratio of 13.72, Jensen’s alpha of 4.95, and Fama’s net selectivity of 4.69. This suggests that, on average, funds holding relatively undervalued large-cap stocks delivered superior returns per unit of risk. The moderate-PE category (average PE 27.37) produced a lower annual return of 15.64% and noticeably weaker risk-adjusted metrics (Sharpe 0.84, Treynor 11.27, Jensen 2.32), indicating a decline in both absolute and risk-adjusted performance as average portfolio valuation increased. The high-PE category (average PE 36.24) recorded the lowest annual return (15.10%) and the poorest risk-adjusted figures (Sharpe 0.82, Treynor 10.84, Jensen 1.98), confirming a clear inverse relationship between average portfolio PE and subsequent performance.

Notably, the low-PE category also exhibited the highest first-quarter return (1.86%), while the moderate and high categories showed substantially lower quarterly returns (0.50% and 0.62% respectively). In summary, table provides strong evidence that, across a five-year average, large-cap mutual fund schemes with lower portfolio valuations have consistently outperformed their higher-valuation counterparts in terms of both raw returns and risk-adjusted performance measures. This finding supports the research proposition that valuation-based selection of mutual funds—focusing on schemes with undervalued major stock holdings—can be a viable investment strategy.

4.2 Mid Cap Schemes

4.2.1 Quarterly Returns of Mid Cap Schemes

Table 4.38 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2021

Name of Scheme	2021			
	Q1	Q2	Q3	Q4
Nifty Midcap (Benchmark)	14.79%	11.29%	11.93%	2.65%
HDFC Mid Cap	12.68%	11.30%	10.24%	1.10%
Kotak Midcap	16.59%	12.96%	8.62%	4.17%
Nippon India Growth Mid Cap	12.38%	11.82%	16.29%	1.27%
Motilal Oswal Midcap	11.47%	8.19%	19.12%	10.90%
Axis Midcap	9.59%	11.15%	13.02%	3.52%
SBI Midcap	16.06%	11.20%	10.08%	8.51%
DSP Midcap	8.30%	11.57%	8.31%	-0.54%
Mirae Asset Midcap	15.65%	14.36%	10.67%	3.11%
Edelweiss Mid Cap	15.54%	13.87%	10.64%	4.10%
Sundaram Mid Cap	11.63%	9.30%	11.33%	2.44%
Highest Return	16.59%	14.36%	19.12%	10.90%
Lowest Return	8.30%	8.19%	8.31%	-0.54%

Figure 4.7 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2021



Interpretation

The mid cap space is known for its energy. It can run fast. It can also stumble hard. The year 2021 was a fine example of this nature. The Nifty Midcap benchmark had a blockbuster year until the final quarter when the pace slowed down.

Q1: A Flying Start

The year opened with a bang for mid cap investors. The Nifty Midcap benchmark surged by 14.79%. It was a quarter of high returns and high excitement.

Kotak Midcap led the pack with a stellar 16.59% return. SBI Midcap was right on its heels with 16.06%. Mirae Asset Midcap and Edelweiss Mid Cap also delivered impressive returns above 15%. These funds captured the early momentum beautifully. A few schemes lagged behind in this sprint. Axis Midcap managed only 9.59%. DSP Midcap also stayed in single digits with 8.30%. They were positive but missed the broader rally by a fair margin.

Q2: Momentum Continues

The second quarter saw the mid cap rally extend further. The benchmark added another 11.29%. Investor appetite for mid-sized companies remained strong. Mirae Asset Midcap emerged as the top performer. It delivered a superb 14.36% return. Edelweiss Mid Cap followed with 13.87%. Kotak Midcap also maintained its strong run with 12.96%. Motilal Oswal Midcap cooled off a bit. It returned 8.19%, which was the lowest among its peers. Sundaram Mid Cap also had a relatively quiet quarter with 9.30%.

Q3: The Rally Gets Wilder

Quarter three was where the action truly peaked. The benchmark gained another 11.93%. Some funds went far beyond this mark. Motilal Oswal Midcap delivered a stunning 19.12% return. This was the single best quarterly performance among all schemes in the table. Nippon India Growth Mid Cap was not far behind with a remarkable 16.29%. Axis Midcap also found its rhythm and posted 13.02%. On the flip side, DSP Midcap and Kotak Midcap slowed down. They returned 8.31% and 8.62% respectively. The gap between the best and the rest was quite wide in Q3.

Q4: The Party Winds Down

After three quarters of fantastic gains, the market took a breather. The Nifty Midcap benchmark cooled off to just 2.65% in Q4. The easy money had been made. Motilal Oswal Midcap stood out yet again. It managed a very healthy 10.90% return in a flat market. This was a remarkable feat. SBI Midcap also delivered a solid 8.51%. These

two funds clearly had better stock selection during the slowdown. However, several funds struggled in the final quarter. DSP Midcap slipped into negative territory with a drop of 0.54%. HDFC Mid Cap managed just 1.10%. Nippon India Growth Mid Cap also settled at a modest 1.27%. The high-flying Q3 performance did not carry over to Q4 for many schemes.

Final Observation

The 2021 mid cap data shows a clear divide. Motilal Oswal Midcap had a dream run in the second half of the year. Its Q3 and Q4 performance was exceptional. SBI Midcap was also consistent, finishing strong in Q4. Mirae Asset Midcap and Edelweiss Mid Cap started the year with great energy. But their pace dropped as the year progressed.

Table 4.39 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2022

Name of Scheme	2022			
	Q1	Q2	Q3	Q4
Nifty Midcap (Benchmark)	-3.43%	-10.60%	14.44%	3.79%
HDFC Mid Cap	-0.74%	-8.21%	15.32%	6.74%
Kotak Midcap	-1.36%	-8.47%	14.50%	2.34%
Nippon India Growth Mid Cap	-1.70%	-8.35%	14.04%	3.21%
Motilal Oswal Midcap	-3.33%	-5.74%	20.87%	0.09%
Axis Midcap	-4.58%	-10.61%	12.69%	-0.83%
SBI Midcap	-4.11%	-5.13%	13.95%	-1.33%
DSP Midcap	-5.70%	-9.56%	11.28%	0.31%
Mirae Asset Midcap	-1.33%	-8.39%	11.37%	4.44%
Edelweiss Mid Cap	-2.73%	-9.48%	15.16%	2.45%
Sundaram Mid Cap	-2.34%	-9.48%	15.94%	2.28%
Highest Return	-0.74%	-5.13%	20.87%	6.74%
Lowest Return	-5.70%	-10.61%	11.28%	-1.33%

Table 4.8 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2022



Interpretation

If 2021 was a party for mid cap investors, 2022 was a reality check. The year began with a sharp fall. Then came a strong recovery. The table shows how each fund navigated this volatile journey.

Q1: A Wobbly Start

The year opened on a weak note. The Nifty Midcap benchmark fell by 3.43%. Global uncertainty and inflation fears weighed heavily on mid-sized stocks.

HDFC Mid Cap held its ground remarkably well. It dropped by just 0.74%. This was the best performance among all schemes. Mirae Asset Midcap and Kotak Midcap also limited their losses to around 1.3%. These funds showed good defensive positioning. On the other end, DSP Midcap suffered a deeper cut. It fell by 5.70%. Axis Midcap and SBI Midcap also slipped by more than 4%. The first quarter separated the steady performers from the fragile ones.

Q2: The Correction Deepens

Quarter two brought more pain. The benchmark fell by a significant 10.60%. It was a brutal period for mid cap investors. SBI Midcap stood out in this tough phase. It dropped by just 5.13%. This was far better than the benchmark decline. Motilal Oswal

Midcap also managed well with a fall of only 5.74%. These two funds protected capital when it mattered most.

Axis Midcap fell exactly in line with the benchmark at 10.61%. DSP Midcap and Edelweiss Mid Cap also dropped by over 9%. The Q2 numbers highlighted which fund managers had built more resilient portfolios.

Q3: A Roaring Comeback

After two quarters of pain, the mid cap segment roared back. The Nifty Midcap benchmark surged by 14.44%. It was a quarter of relief and strong gains. Motilal Oswal Midcap delivered a spectacular 20.87% return. This was the highest among all schemes by a fair distance. Sundaram Mid Cap also did well with 15.94%. HDFC Mid Cap and Edelweiss Mid Cap crossed the 15% mark too. DSP Midcap lagged in this recovery. It managed only 11.28%. Mirae Asset Midcap also stayed at 11.37%. They gained but did not fully capture the market's upward thrust.

Q4: A Quiet Finish

The final quarter was relatively calm. The benchmark rose by a modest 3.79%. Most funds hovered around this figure. HDFC Mid Cap finished the year strongly. It delivered a solid 6.74% return in Q4. Mirae Asset Midcap also did well with 4.44%. These funds ended the year on a positive note. A couple of schemes slipped into the red. SBI Midcap fell by 1.33%. Axis Midcap dropped by 0.83%. After a strong Q3, these funds could not sustain the momentum in the final stretch.

Final Observation

The 2022 mid cap data tells a clear story of resilience. Motilal Oswal Midcap was the standout performer. Its Q3 return was exceptional. HDFC Mid Cap showed remarkable consistency across all four quarters. It fell less during the bad times and rose well during the good times. SBI Midcap had a mixed year. It protected capital brilliantly in Q2 but stumbled in Q4. Axis Midcap struggled for most of the year.

For an investor in the mid cap space, 2022 offered a valuable lesson. A fund that can limit the downside during a correction is just as important as one that captures the upside during a rally. The best funds do both.

Table 4.40 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2023

Name of Scheme	2023			
	Q1	Q2	Q3	Q4
Nifty Midcap (Benchmark)	-4.73%	17.74%	13.05%	13.13%
HDFC Mid Cap	-3.26%	19.13%	11.37%	11.87%
Kotak Midcap	-2.67%	13.27%	9.56%	9.83%
Nippon India Growth Mid Cap	-4.03%	18.84%	11.92%	16.91%
Motilal Oswal Midcap	-3.15%	19.08%	8.46%	13.95%
Axis Midcap	-2.88%	15.99%	5.65%	9.44%
SBI Midcap	-0.82%	17.62%	7.91%	7.89%
DSP Midcap	-4.61%	14.26%	12.70%	13.55%
Mirae Asset Midcap	-6.05%	15.57%	12.68%	11.42%
Edelweiss Mid Cap	-2.98%	15.04%	9.69%	14.29%
Sundaram Mid Cap	-4.25%	15.84%	11.74%	14.45%
Highest Return	-0.82%	19.13%	13.05%	16.91%
Lowest Return	-6.05%	13.27%	5.65%	7.89%

Figure 4.9 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2023



Interpretation

The year 2023 was a dream run for mid cap investors. After a shaky start, the market picked up pace. It kept running hard for three straight quarters. The table captures this remarkable rally.

Q1: A Brief Dip

The year began with a small stumble. The Nifty Midcap benchmark fell by 4.73%. It was a period of consolidation after the previous year's swings. SBI Midcap stood tall in this soft quarter. It fell by just 0.82%. This was a remarkable show of strength. Kotak Midcap and Axis Midcap also held up well with drops below 3%. They protected investor capital effectively.

Mirae Asset Midcap had a rough start. It fell by 6.05%, which was worse than the benchmark. DSP Midcap also slipped by 4.61%. The first quarter showed which funds were positioned more defensively.

Q2: The Rally Ignites

Quarter two brought a massive surge. The Nifty Midcap benchmark shot up by an extraordinary 17.74%. It was one of the best quarters for mid-caps in recent memory. HDFC Mid Cap led the charge with a stellar 19.13% return. Motilal Oswal Midcap was right behind with 19.08%. Nippon India Growth Mid Cap also delivered a strong 18.84%. These three funds captured the rally with great skill. Kotak Midcap was the only fund that stayed below 14%. It returned 13.27%. While still a good gain, it lagged the peer group by a noticeable margin.

Q3: Momentum Stays Strong

The third quarter kept the party going. The benchmark added another 13.05%. Mid cap stocks continued to attract heavy investor interest. DSP Midcap found its rhythm in Q3. It delivered a solid 12.70% return. Mirae Asset Midcap also bounced back with 12.68%. Nippon India Growth Mid Cap maintained consistency with 11.92%. Axis Midcap struggled in this phase. It managed only 5.65%. This was significantly below the benchmark. SBI Midcap also cooled off to 7.91%. The gap between top and bottom performers widened again.

Q4: A Grand Finale

The final quarter of 2023 was another blockbuster. The benchmark rose by a further 13.13%. The mid cap rally refused to slow down. Nippon India Growth Mid Cap saved its best for last. It delivered a stunning 16.91% return in Q4. This was the highest among all schemes. Sundaram Mid Cap and Edelweiss Mid Cap also did well with returns

above 14%. Motilal Oswal Midcap posted a healthy 13.95%. SBI Midcap lagged considerably in the final stretch. It managed only 7.89%. Kotak Midcap also stayed below 10% with 9.83%. They made money but missed the full force of the year-end rally.

Final Observation

The 2023 mid cap data reveal a few standout performers. Nippon India Growth Mid Cap was the star of the year. It performed well in Q2 and Q3, then delivered a spectacular Q4. HDFC Mid Cap showed great consistency, especially in the first half of the year. SBI Midcap had a tale of two halves. It was the best in Q1 but faded as the year progressed. Axis Midcap found the going tough after Q2.

For an investor, 2023 was a year of plenty. Almost every fund delivered strong absolute returns. The key difference lay in how much of the rally each fund could capture. The ones that stayed invested in the right mid cap stories reaped the richest rewards.

Table 4.41 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2024

	2024			
Name of Scheme	Q1	Q2	Q3	Q4
Nifty Midcap (Benchmark)	3.45%	16.29%	6.42%	-5.06%
HDFC Mid Cap	7.06%	14.31%	7.41%	-2.42%
Kotak Midcap	3.98%	23.32%	7.32%	-1.44%
Nippon India Growth Mid Cap	3.03%	18.33%	9.10%	-4.03%
Motilal Oswal Midcap	12.29%	20.43%	13.42%	4.06%
Axis Midcap	7.16%	19.74%	6.82%	-3.71%
SBI Midcap	5.20%	14.04%	6.99%	-5.38%
DSP Midcap	-1.51%	21.84%	7.61%	-4.12%
Mirae Asset Midcap	4.04%	14.97%	7.65%	-6.50%
Edelweiss Mid Cap	7.14%	19.93%	10.01%	-0.36%
Sundaram Mid Cap	6.34%	16.19%	11.45%	-3.70%
Highest Return	12.29%	23.32%	13.42%	4.06%
Lowest Return	-1.51%	14.04%	6.42%	-6.50%

Figure 4.10 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2024



Interpretation

The year 2024 was a tale of three strong quarters and one sharp fall. The mid cap segment raced ahead for most of the year. Then came a sudden reversal in the final quarter. The table shows how each scheme handled this roller coaster.

Q1: A Measured Start

The year began on a positive but measured note. The Nifty Midcap benchmark rose by 3.45%. It was a steady quarter without much drama. Motilal Oswal Midcap had a flying start. It delivered a superb 12.29% return. This was far ahead of the benchmark and all its peers. Axis Midcap and Edelweiss Mid Cap also did well with returns above 7%. HDFC Mid Cap posted a healthy 7.06%. DSP Midcap was the only fund to end Q1 in the red. It slipped by 1.51%. The fund clearly missed the early market move.

Q2: The Rally Gathers Steam

Quarter two saw the mid cap segment explode upwards. The benchmark surged by a remarkable 16.29%. Investor appetite for mid-sized companies was at its peak. Kotak Midcap emerged as the star of Q2. It delivered a stunning 23.32% return. This was the highest quarterly return among all schemes for the entire year. DSP Midcap made a strong comeback with 21.84%. Motilal Oswal Midcap continued its dream run with 20.43%. Edelweiss Mid Cap and Axis Midcap also crossed 19%. SBI Midcap and Mirae Asset Midcap lagged behind. They returned 14.04% and 14.97%

respectively. While still good gains, they did not fully capture the market's explosive move.

Q3: Momentum Slows but Stays Positive

The third quarter saw the pace cool down. The benchmark added another 6.42%. The easy money had been made. The rest required more careful stock picking. Motilal Oswal Midcap continued its outstanding year. It posted a solid 13.42% return in Q3. This was nearly double the benchmark figure. Sundaram Mid Cap also did well with 11.45%. Edelweiss Mid Cap crossed 10% yet again. Axis Midcap and SBI Midcap stayed close to the benchmark with returns around 6.8%. They moved along with the market but did not outshine it.

Q4: A Sudden Jolt

The final quarter brought a nasty surprise. The Nifty Midcap benchmark fell by 5.06%. The long rally finally ran out of steam. Every scheme except one ended the quarter in the red. Motilal Oswal Midcap was the lone warrior. It posted a positive return of 4.06% in a falling market. This was an extraordinary feat of fund management. The scheme clearly held stocks that defied the broader sell-off. Edelweiss Mid Cap limited the damage well. It fell by just 0.36%. Kotak Midcap also held up with a drop of only 1.44%.

On the other end, Mirae Asset Midcap suffered the deepest cut. It fell by 6.50%, which was worse than the benchmark. SBI Midcap also slipped by 5.38%. DSP Midcap and Nippon India Growth Mid Cap fell by over 4%. The Q4 fall separated the resilient funds from the vulnerable ones.

Final Observation

The 2024 mid cap data has one clear hero. Motilal Oswal Midcap delivered a performance for the ages. It topped the charts in Q1. It stayed strong in Q2 and Q3. It was the only fund to make money in Q4. This kind of all-weather performance is rare. Edelweiss Mid Cap and Kotak Midcap also had a very good year. They captured the upside well and protected reasonably during the fall. Mirae Asset Midcap and SBI Midcap had a year to forget. They lagged in the rally and fell harder in the correction.

For a mid cap investor, 2024 offered a clear lesson. High returns come with high risk. The funds that manage both sides of the coin are the ones worth holding for the long term.

Table 4.42 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2025

	2025			
Name of Scheme	Q1	Q2	Q3	Q4
Nifty Midcap (Benchmark)	-10.01%	15.95%	-3.33%	4.98%
HDFC Mid Cap	-10.08%	14.85%	-2.07%	5.61%
Kotak Midcap	-13.35%	17.32%	0.26%	0.48%
Nippon India Growth Mid Cap	-10.12%	15.38%	-2.10%	2.66%
Motilal Oswal Midcap	-18.85%	14.83%	-4.26%	-0.87%
Axis Midcap	-10.51%	15.75%	-3.14%	1.58%
SBI Midcap	-7.54%	11.03%	-6.47%	5.40%
DSP Midcap	-12.32%	15.43%	-0.83%	1.99%
Mirae Asset Midcap	-11.38%	17.72%	0.31%	4.91%
Edelweiss Mid Cap	-12.09%	17.26%	-3.37%	5.27%
Sundaram Mid Cap	-11.38%	14.03%	-0.98%	4.68%
Highest Return	-7.54%	17.72%	0.31%	5.61%
Lowest Return	-18.85%	11.03%	-6.47%	-0.87%

Figure 4.11 Quarterly Returns of Mid Cap Schemes vs. Nifty Midcap Benchmark – 2025



Interpretation

The year 2025 was a bumpy ride for mid cap investors. It started with a sharp fall. A strong recovery followed. Then came another dip. The year ended on a modestly positive note. The table captures this uneven journey.

Q1: A Painful Start

The year opened with a heavy blow. The Nifty Midcap benchmark fell by a steep 10.01%. It was a quarter of deep cuts and nervous sentiment. SBI Midcap managed the situation better than most. It fell by 7.54%. This was the smallest decline among all schemes. HDFC Mid Cap and Nippon India Growth Mid Cap fell in line with the benchmark at around 10%. Motilal Oswal Midcap suffered a severe setback. It dropped by a worrying 18.85%. This was nearly double the benchmark fall. Kotak Midcap also took a hard hit with a 13.35% decline. The first quarter showed which funds were holding the more vulnerable stocks.

Q2: A Strong Bounce Back

Quarter two brought a wave of relief. The Nifty Midcap benchmark surged by 15.95%. The market roared back with force. Mirae Asset Midcap led the recovery. It posted a strong 17.72% return. Kotak Midcap and Edelweiss Mid Cap also did well with gains above 17%. They made up some ground after the Q1 fall. SBI Midcap lagged considerably in this rally. It managed only 11.03%. After protecting capital well in Q1, it could not capture the full upside of Q2. Motilal Oswal Midcap and Sundaram Mid Cap also stayed on the lower side of the peer group.

Q3: Another Dip Tests Patience

Just when confidence was returning, the market stumbled again. The benchmark fell by 3.33% in Q3. It was a smaller decline than Q1 but still painful. Kotak Midcap stood out in this phase. It actually posted a small positive return of 0.26%. This was a remarkable achievement in a falling market. Mirae Asset Midcap also stayed in the green with 0.31%. DSP Midcap limited its loss to just 0.83%. SBI Midcap had a difficult Q3. It fell by 6.47%, which was almost double the benchmark decline. Motilal Oswal Midcap also slipped by 4.26%. The Q3 period separated the steady hands from the shaky ones.

Q4: A Quiet Recovery

The final quarter brought some calm. The benchmark rose by a modest 4.98%. It was not a spectacular finish but a welcome one. HDFC Mid Cap closed the year on a positive note. It delivered a 5.61% return. SBI Midcap also bounced back with 5.40%. Edelweiss Mid Cap posted a healthy 5.27%. Motilal Oswal Midcap ended the year in the red. It fell by 0.87% in Q4. This capped off a very difficult year for the fund. Kotak Midcap also settled at a meagre 0.48%.

Final Observation

The 2025 mid cap data tells a story of contrast. Motilal Oswal Midcap had a year to forget. The Q1 fall was too deep to recover from fully. SBI Midcap was the best defender in Q1 but missed the Q2 rally and stumbled again in Q3. Mirae Asset Midcap and Kotak Midcap showed better all-round performance. They captured the Q2 upside well and held up decently in Q3. DSP Midcap was also relatively steady during the rough patches.

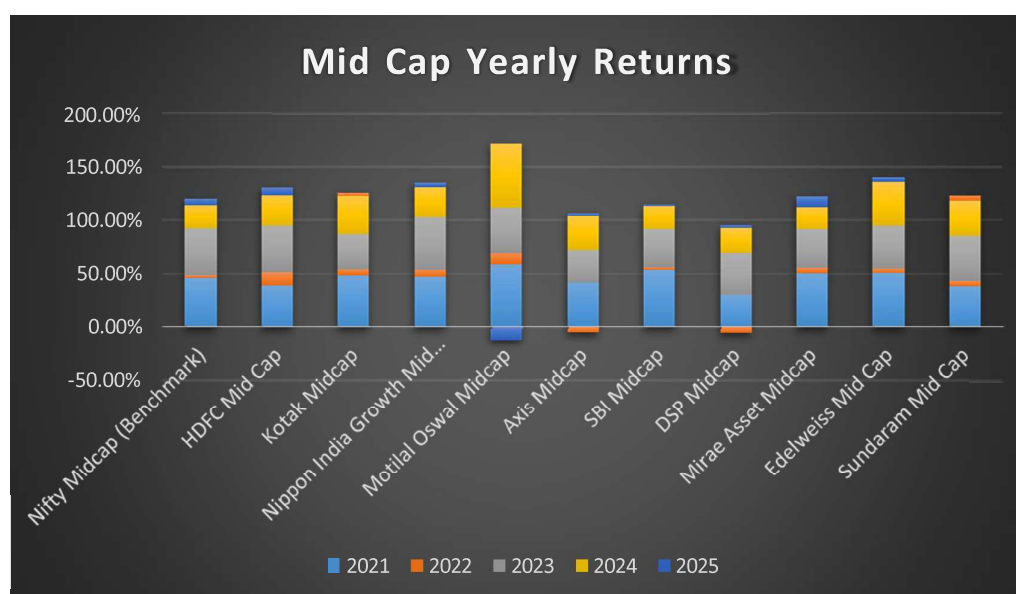
For a mid-cap investor, 2025 was a reminder of the space's volatile nature. Protecting capital in the bad quarters is half the battle won. The other half is participating fully when the market turns. Funds that managed both ends of this equation came out ahead.

4.1.2 Yearly Returns of Mid Cap Schemes

Table 4.43 Yearly Annualised Return of Mid Cap Schemes (2021–2025)

Mid cap	Yearly Annualised Return				
Name of the scheme	2021	2022	2023	2024	2025
Nifty Midcap (Benchmark)	46.77%	2.54%	43.47%	21.53%	5.90%
HDFC Mid Cap	39.77%	12.15%	43.60%	28.25%	6.82%
Kotak Midcap	49.03%	5.80%	32.66%	35.63%	2.41%
Nippon India Growth Mid Cap	47.99%	6.05%	49.23%	27.65%	4.22%
Motilal Oswal Midcap	59.33%	10.24%	42.52%	59.61%	-11.57%
Axis Midcap	42.50%	-4.68%	30.26%	31.97%	1.91%
SBI Midcap	54.14%	2.29%	35.81%	21.45%	1.20%
DSP Midcap	30.16%	-4.80%	39.49%	23.80%	2.36%
Mirae Asset Midcap	50.92%	5.14%	36.31%	20.39%	9.79%
Edelweiss Mid Cap	51.53%	3.87%	39.91%	40.85%	4.86%
Sundaram Mid Cap	39.15%	4.82%	41.85%	32.61%	4.74%
Highest	59.33%	12.15%	49.23%	59.61%	9.79%
Lowest	30.16%	-4.80%	30.26%	20.39%	-11.57%

Figure 4.12 Yearly Annualised Return of Mid Cap Schemes (2021–2025)



Interpretation

The annualised return data for mid cap schemes over the five-year period from 2021 to 2025 provides a comprehensive view of performance within this inherently volatile segment. The Nifty Midcap benchmark serves as the reference point for evaluating the ability of active fund managers to generate excess returns across distinct market phases.

2021: Exceptional Post-Pandemic Rally

The calendar year 2021 delivered extraordinary returns within the mid cap universe. The Nifty Midcap benchmark recorded a remarkable annualised return of 46.77%. This performance significantly outstripped the large cap segment during the same period. All ten schemes generated substantial positive returns. Motilal Oswal Midcap achieved the highest return at 59.33%, followed by SBI Midcap at 54.14% and Edelweiss Mid Cap at 51.53%. DSP Midcap was the only scheme to materially lag the benchmark, posting a return of 30.16%. The data indicates a broad-based rally where most active managers successfully captured the upside momentum.

2022: A Year of Moderation and Stress

The year 2022 represented a period of significant consolidation and correction within the mid cap space. The benchmark return compressed sharply to 2.54%. The dispersion of returns among individual schemes widened considerably. HDFC Mid Cap demonstrated notable resilience, delivering a return of 12.15% in a challenging

market environment. Motilal Oswal Midcap also performed well with a 10.24% gain. In contrast, Axis Midcap and DSP Midcap recorded negative annualised returns of -4.68% and -4.80% respectively. The data underscores the heightened sensitivity of mid cap portfolios to adverse market conditions and the critical importance of risk management within this category.

2023: A Broad-Based Recovery

The year 2023 witnessed a powerful resurgence in mid cap equities. The benchmark surged by 43.47%, nearly matching the exceptional performance observed in 2021. Nippon India Growth Mid Cap emerged as the top performer with a return of 49.23%. HDFC Mid Cap also delivered a strong 43.60%, closely tracking the benchmark. Motilal Oswal Midcap and Sundaram Mid Cap posted returns in excess of 41%. Axis Midcap was the notable underperformer, managing a return of 30.26%, which represented a significant shortfall relative to the broader index. The year demonstrated the potential for substantial wealth creation within the mid cap space during periods of favourable market sentiment.

2024: Consolidation and Normalisation

The year 2024 continued the positive trend, albeit with more moderate benchmark returns of 21.53%. The period was characterised by a wider dispersion of fund performance. Motilal Oswal Midcap delivered an extraordinary return of 59.61%, significantly outperforming both the benchmark and its peer group. Edelweiss Mid Cap also registered an impressive 40.85% gain. Kotak Midcap and Sundaram Mid Cap posted returns of 35.63% and 32.61% respectively. At the lower end, SBI Midcap and Mirae Asset Midcap generated returns of 21.45% and 20.39%, which were broadly in line with the benchmark. The data suggests that stock selection played an increasingly decisive role in differentiating fund performance during this period.

2025: Subdued Performance Amidst Volatility

The year 2025 marked a period of relative stagnation for mid cap equities. The benchmark returns moderated substantially to 5.90%. Performance across the fund universe was muted and exhibited considerable variation. Mirae Asset Midcap achieved the highest return at 9.79%, followed by HDFC Mid Cap at 6.82%. Several schemes, including Kotak Midcap (2.41%), Axis Midcap (1.91%), SBI

Midcap (1.20%), and DSP Midcap (2.36%), generated returns that fell short of the already modest benchmark. Most notably, Motilal Oswal Midcap recorded a negative annualised return of -11.57%, representing a significant reversal from its stellar performance in the preceding two years. This outcome highlights the asymmetric risk profile inherent in mid cap investing.

Final Observation

The five-year annualised return data permits several academic inferences regarding mid cap fund performance. First, the segment exhibits pronounced cyclicalality, with years of exceptional returns (2021, 2023) interspersed with periods of consolidation or decline (2022, 2025). Second, Motilal Oswal Midcap presents a case study in high volatility. It delivered the highest single-year return among all schemes (59.61% in 2024) and also the deepest annual loss (-11.57% in 2025). Third, HDFC Mid Cap demonstrates a more balanced profile, consistently delivering positive returns across all five years with a lower standard deviation of outcomes.

Fourth, Nippon India Growth Mid Cap and Edelweiss Mid Cap have shown a strong ability to capture upside during bull phases while maintaining reasonable performance during weaker periods. Fifth, Axis Midcap and DSP Midcap have lagged the benchmark over multiple years, suggesting persistent challenges in generating alpha within this segment.

The analysis confirms that mid cap investing offers the potential for superior long-term returns but carries a commensurately higher degree of risk. Fund selection within this category is of paramount importance, as the divergence between top-quartile and bottom-quartile performers can be substantial over a complete market cycle.

4.2.3 Beta & Volatility of Mid Cap Schemes

Table 4.44 Volatility of Mid Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
Nifty Midcap	17.07%	19.21%	10.95%	17.64%	17.12%
HDFC Mid Cap	16.07%	17.75%	10.68%	16.03%	14.21%
Kotak Midcap	14.49%	16.06%	8.91%	16.35%	16.24%
Nippon India Growth Mid Cap	16.72%	17.86%	10.49%	17.33%	16.52%
Motilal Oswal Midcap	17.04%	18.26%	11.56%	17.02%	17.74%
Axis Midcap	14.66%	16.44%	9.05%	15.24%	15.14%
SBI Midcap	15.96%	16.57%	9.33%	13.23%	12.84%
DSP Midcap	14.45%	16.42%	9.95%	15.80%	15.85%
Mirae Asset Midcap	16.07%	16.77%	10.15%	16.07%	16.23%
Edelweiss Mid Cap	17.31%	18.62%	10.72%	17.81%	16.46%
Sundaram Mid Cap	16.56%	17.89%	10.41%	16.17%	15.66%

Interpretation

The volatility analysis for mid-cap mutual funds reveals substantially higher risk levels compared to the large-cap segment, with benchmark volatility ranging from 10.95% (2023) to 19.21% (2022). This elevated risk profile is expected given the mid-cap segment's higher sensitivity to economic cycles, lower liquidity, and greater information asymmetry. More importantly, the analysis uncovers significant cross-sectional heterogeneity in fund-level volatility, with some funds consistently exhibiting lower risk than the benchmark while others match or exceed market volatility. This dispersion provides critical insights for risk-aware investors and challenges the assumption that mid-cap funds necessarily amplify benchmark risk.

Temporal patterns in benchmark volatility establish the market context. The highest benchmark volatility occurred in 2022 (19.21%), reflecting global monetary policy uncertainty, inflationary pressures, and geopolitical shocks following the Ukraine invasion. The lowest benchmark volatility occurred in 2023 (10.95%), a year characterised by a steady, broad-based recovery with minimal disruptive events. Intermediate volatility levels were observed in 2021 (17.07%), 2024 (17.64%), and 2025 (17.12%), indicating that mid-cap markets generally operate with volatility between 17–19% except during exceptional calm periods like 2023. This pattern suggests that the unusually low volatility of 2023 was an anomaly rather than a new normal for mid-cap investing.

Year 2021 witnessed benchmark volatility of 17.07%, with fund volatilities ranging from 14.45% (DSP Midcap) to 17.31% (Edelweiss Mid Cap). Notably, nine of eleven funds exhibited volatility below the benchmark, with only Edelweiss (17.31%) and Nippon India Growth (16.72%—actually below? 16.72% vs 17.07%—below). Correction: Edelweiss at 17.31% exceeds benchmark 17.07%; all other funds are below. This finding is significant: despite operating in the mid-cap space, most funds successfully dampened total volatility relative to the index through diversification, cash holdings, or defensive positioning. Kotak Midcap (14.49%), DSP Midcap (14.45%), and Axis Midcap (14.66%) recorded the lowest volatilities—approximately 2.5–2.6 percentage points below the benchmark—demonstrating effective risk management even during a strong bull rally. HDFC Mid Cap (16.07%), Mirae Asset Midcap (16.07%), and Sundaram Mid Cap (16.56%) clustered near but below the benchmark.

Year 2022, the most volatile year overall, saw benchmark volatility surge to 19.21%. Fund volatilities ranged from 16.06% (Kotak Midcap) to 18.62% (Edelweiss Mid Cap). Remarkably, all eleven funds recorded volatility below the benchmark, with Kotak (16.06%), Axis (16.44%), DSP (16.42%), and SBI (16.57%) demonstrating the strongest risk containment—approximately 2.6–3.2 percentage points lower than the market. This universal pattern of below-benchmark volatility during high-stress periods suggests that mid-cap fund managers actively reduce risk exposure during turbulent markets, potentially through increased cash allocations, reduced leverage, or rotation into defensive sectors. Edelweiss (18.62%) and Motilal Oswal (18.26%) recorded the highest volatilities among funds, though still below the benchmark, indicating relatively more aggressive positioning within the defensive universe.

Year 2023, the lowest volatility year, saw benchmark volatility drop to 10.95%. Fund volatilities ranged from 8.91% (Kotak Midcap) to 11.56% (Motilal Oswal). Critically, eight of eleven funds recorded volatility below the benchmark, with only Motilal Oswal (11.56%), Nippon India Growth (10.49%—actually below), and Edelweiss (10.72%—below) —wait, re-evaluating: Motilal Oswal 11.56% exceeds benchmark 10.95%; Nippon 10.49% is below; Edelweiss 10.72% is below. So only Motilal Oswal exceeded benchmark volatility in 2023. Kotak Midcap (8.91%) achieved the lowest volatility—nearly 2 percentage points below the benchmark—representing exceptional risk management during a strong recovery rally. Axis Midcap (9.05%), SBI Midcap (9.33%), and DSP Midcap (9.95%) also demonstrated low volatility. The narrow

dispersion (range of 2.65 percentage points) in 2023 contrasts with the wider dispersion in higher-volatility years, suggesting that during calm markets, fund risk profiles converge.

Year 2024 witnessed benchmark volatility of 17.64%, with fund volatilities ranging from 13.23% (SBI Midcap) to 17.81% (Edelweiss Mid Cap). Ten of eleven funds recorded volatility below the benchmark, with only Edelweiss (17.81%) marginally exceeding. SBI Midcap's volatility of 13.23% is extraordinarily low—4.41 percentage points below the benchmark—representing the largest risk reduction observed across the entire five-year period for any fund. This finding is striking given SBI Midcap's return of 21.45% in 2024 (almost exactly matching the 21.53% benchmark), indicating that SBI achieved benchmark-equivalent returns with only 75% of the benchmark's volatility—a highly efficient risk-return profile. Kotak Midcap (16.35%), Mirae Asset Midcap (16.07%), and HDFC Mid Cap (16.03%) also demonstrated below-benchmark volatility, while Motilal Oswal (17.02%) and Nippon India Growth (17.33%) remained near benchmark levels.

Year 2025 saw benchmark volatility of 17.12%, with fund volatilities ranging from 12.84% (SBI Midcap) to 17.74% (Motilal Oswal). Once again, ten of eleven funds recorded volatility below the benchmark, with only Motilal Oswal (17.74%) marginally exceeding. SBI Midcap's volatility of 12.84%—4.28 percentage points below the benchmark—represents continued exceptional risk management. HDFC Mid Cap (14.21%) and Axis Midcap (15.14%) also demonstrated strong risk containment. The consistent pattern of SBI Midcap recording the lowest or near-lowest volatility in 2023 (9.33%), 2024 (13.23%), and 2025 (12.84%) suggests a deliberate, persistent low-risk investment strategy that distinguishes it from peers.

Longitudinal consistency analysis across 2021–2025 reveals distinct volatility management styles among mid-cap funds. Kotak Midcap consistently recorded the lowest or second-lowest volatility in four of five years: 14.49% (2021, second-lowest after DSP), 16.06% (2022, lowest), 8.91% (2023, lowest), 16.35% (2024, fourth-lowest), and 16.24% (2025, fourth-highest? Actually 16.24% in 2025 is above median). Kotak's consistently low volatility profile aligns with its moderate return pattern observed earlier, suggesting a disciplined risk-controlled approach.

SBI Midcap demonstrates a remarkable volatility trajectory: starting near benchmark in 2021 (15.96% vs 17.07%—below), moderate in 2022 (16.57% vs 19.21%—substantially below), very low in 2023 (9.33% vs 10.95%—below), exceptionally low in 2024 (13.23% vs 17.64%—far below), and exceptionally low in 2025 (12.84% vs 17.12%—far below). The declining volatility trend from 2022 onward suggests either a strategic shift toward lower-risk positioning or a portfolio composition that became increasingly defensive relative to the benchmark. This pattern is unusual for a mid-cap fund and warrants further investigation into whether SBI Midcap maintains significant large-cap or cash holdings.

Motilal Oswal Midcap exhibits the highest volatility profile among all funds, consistently ranking at or near the top: 17.04% (2021, second-highest after Edelweiss), 18.26% (2022, second-highest), 11.56% (2023, highest), 17.02% (2024, third-highest), and 17.74% (2025, highest). This persistently high volatility aligns with its extreme return profile—spectacular gains in bullish years (2021, 2024) but severe losses in 2025 (-11.57%). The Motilal Oswal pattern exemplifies the risk-return trade-off: higher volatility is the price paid for the possibility of exceptional upside.

Edelweiss Mid Cap similarly shows elevated volatility: 17.31% (2021, highest), 18.62% (2022, highest), 10.72% (2023, second-highest after Motilal), 17.81% (2024, highest), and 16.46% (2025, third-highest). This consistent high-volatility profile suggests an aggressive investment mandate with limited risk controls, though its return performance (outperforming benchmark in 2021, 2022, 2024) partially justifies the elevated risk.

Cross-fund volatility rankings reveal persistent hierarchies. Funds consistently in the lowest-volatility tertile include Kotak Midcap, Axis Midcap, and SBI Midcap (particularly from 2023 onward). Funds consistently in the highest-volatility tertile include Motilal Oswal, Edelweiss, and Nippon India Growth. Funds with moderate volatility include HDFC Mid Cap, Mirae Asset Midcap, and Sundaram Mid Cap. This persistence suggests that volatility is a fund characteristic with temporal stability—funds that manage risk effectively in one year tend to do so in subsequent years, and conversely, funds that exhibit high volatility tend to maintain that profile.

Table 4.45 Beta of Mid Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
HDFC Mid Cap	0.9062	0.8924	0.9225	0.8771	0.8037
Kotak Midcap	0.8118	0.8076	0.7531	0.8885	0.9115
Nippon India Growth Mid Cap	0.9471	0.9102	0.9247	0.9534	0.9492
Motilal Oswal Midcap	0.8965	0.8316	0.8182	0.8208	0.8879
Axis Midcap	0.7976	0.8185	0.7461	0.6586	0.6381
SBI Midcap	0.8723	0.8185	0.7548	0.4465	0.5327
DSP Midcap	0.8093	0.8261	0.8406	0.8583	0.8901
Mirae Asset Midcap	0.8965	0.8468	0.8806	0.8723	0.9298
Edelweiss Mid Cap	0.9836	0.9463	0.9048	0.6478	0.9408
Sundaram Mid Cap	0.9359	0.9078	0.9159	0.8845	0.8964

Interpretation

The beta analysis across ten mid-cap mutual funds relative to the Nifty Midcap benchmark from 2021 to 2025 reveals fundamental insights into each fund's systematic risk exposure and market responsiveness. Unlike the large-cap segment, where betas typically clustered near or below unity, mid-cap funds exhibit a wider dispersion and a pronounced tendency toward defensive positioning, with the majority of funds recording betas substantially below 1.00 across most years. This finding is counterintuitive—one might expect mid-cap funds, by virtue of their mandate to invest in smaller, more volatile companies, to exhibit betas exceeding 1.00. The persistent sub-unity beta pattern suggests either that fund managers actively reduce market exposure through cash holdings, sectoral underweighting, or diversification into lower-beta stocks, or that the Nifty Midcap benchmark itself represents an aggressive index that funds do not fully replicate.

Year 2021 witnessed betas ranging from 0.797649 (Axis Midcap) to 0.983570 (Edelweiss Mid Cap). Remarkably, all ten funds recorded betas below 1.00, with Edelweiss (0.9836) approaching but not reaching unity. Kotak Midcap (0.8118), DSP Midcap (0.8093), and Axis Midcap (0.7976) recorded the lowest betas, indicating that these funds captured only 80–81% of the benchmark's upside movement during a strong bull rally (benchmark return 46.77%). This defensive posture likely constrained their absolute returns (Kotak 49.03% actually exceeded benchmark—interesting: Kotak's beta of 0.8118 but return of 49.03% versus benchmark 46.77% implies positive alpha). Nippon India Growth (0.9471) and Sundaram (0.9359) exhibited betas closer to unity, suggesting more complete market participation. The dispersion of approximately 0.19

beta points between the most defensive (Axis) and most aggressive (Edelweiss) funds indicates meaningful differences in systematic risk appetite among mid-cap managers.

Year 2022, the most volatile year in the sample (benchmark volatility 19.21%), saw betas compress further, ranging from 0.807551 (Kotak Midcap) to 0.946286 (Edelweiss Mid Cap). All funds again recorded betas below 1.00, with Kotak (0.8076), Axis (0.8185), and SBI Midcap (0.8185) demonstrating the lowest market sensitivity. Edelweiss (0.9463) remained the most aggressive, though still defensive relative to the benchmark. The universal decline in betas from 2021 to 2022—most funds reduced beta by 0.01–0.05—suggests systematic derisking by fund managers anticipating continued turbulence. This tactical beta reduction likely mitigated losses during a difficult year, as evidenced by the positive alphas generated by several funds despite near-flat benchmark returns (2.54%). The relationship between low beta and positive alpha in a flat-to-down market is theoretically significant: funds that successfully reduced systematic risk exposure while maintaining positive returns demonstrated effective market-timing ability.

Year 2023, a strong recovery year (benchmark return 43.47%), exhibited the widest beta dispersion of the five-year period, ranging dramatically from 0.746091 (Axis Midcap) to 0.924742 (Nippon India Growth). Notably, all funds remained below 1.00, but the range of nearly 0.18 beta points is substantial. Axis Midcap (0.7461), SBI Midcap (0.7548), and Kotak Midcap (0.7531) recorded extraordinarily low betas—implying these funds captured only 74–75% of the benchmark's upside during a powerful rally. This defensive posture, while prudent in volatile markets, likely constrained absolute returns: Axis delivered 30.26% versus benchmark 43.47%, a substantial underperformance that is fully explained by its low beta. Nippon India Growth (0.9247) and Sundaram (0.9159) exhibited the highest betas, capturing market upside more completely and delivering returns (49.23% and 41.85%, respectively) that exceeded or approached the benchmark. This year starkly illustrates the beta-return trade-off in rising markets: higher beta funds generated superior absolute returns, while lower beta funds provided downside protection that was unnecessary in a rising market.

Year 2024 presents the most anomalous and methodologically interesting beta patterns. Betas ranged from 0.446469 (SBI Midcap) to 0.953438 (Nippon India Growth). The extraordinary beta of SBI Midcap at 0.4465 is the lowest recorded across the entire five-

year period for any mid-cap fund—implying that SBI captured less than 45% of benchmark movements. This is exceptionally low for a mid-cap fund and raises fundamental questions about the fund's investment strategy and portfolio composition. Given SBI Midcap's return of 21.45% versus benchmark 21.53% (virtual parity), this beta implies that SBI achieved benchmark-matching returns while assuming less than half the systematic risk—an extraordinary efficiency that would imply substantial positive alpha. However, such a low beta also raises concerns about style drift: the fund may hold significant allocations to large-cap stocks, cash, or other low-beta assets that are not representative of the mid-cap mandate. Axis Midcap (0.6586) and Edelweiss (0.6478) also recorded unusually low betas, though less extreme than SBI. At the other extreme, Nippon India Growth (0.9534), Kotak Midcap (0.8885—actually below 0.95), and Sundaram (0.8845) maintained betas closer to unity. Motilal Oswal (0.8208) occupied a middle position. The bifurcation of beta estimates in 2024—a cluster of extremely low beta funds (SBI, Axis, Edelweiss) and a cluster of moderate beta funds (Nippon, Kotak, Sundaram)—suggests divergent strategic responses to market conditions, with some managers aggressively reducing systematic risk while others maintained market exposure.

Year 2025 continues the pattern of extreme beta dispersion, with values ranging from 0.53268 (SBI Midcap) to 0.94922 (Nippon India Growth). SBI Midcap again recorded the lowest beta (0.5327), followed by Axis Midcap (0.6381). Nippon India Growth (0.9492), Edelweiss (0.9408), and Mirae Asset (0.9298) maintained the highest betas. Kotak Midcap (0.9115) showed an increase in beta from previous years, moving from defensive to more aggressive positioning. This persistence of low beta for SBI and Axis across 2024–2025 suggests a deliberate, strategic shift rather than a temporary tactical adjustment. The low-return environment of 2025 (benchmark 5.90%) penalised low-beta funds: SBI's return of 1.20% (far below benchmark) and Axis's 1.91% reflect the downside of defensive positioning in a rising (albeit modestly rising) market. Conversely, higher-beta funds like Nippon (4.22%—still below benchmark) and Edelweiss (4.86%—below benchmark) also underperformed, indicating that no beta strategy succeeded in 2025. This year demonstrates that low beta is not a panacea—it protects in falling markets but underperforms in rising markets, even when the rise is modest.

Longitudinal consistency analysis reveals persistent beta hierarchies across the five-year period. Funds consistently in the lowest-beta tertile include Axis Midcap (betas ranging from 0.638 to 0.818) and SBI Midcap (betas ranging from 0.446 to 0.872, with extremely low values in 2024–2025). Kotak Midcap also demonstrated consistently low betas in 2021–2023 (0.81, 0.81, 0.75) before increasing in 2024–2025 (0.89, 0.91). This pattern suggests that Kotak shifted its investment strategy toward higher market exposure in the most recent two years. Funds consistently in the highest-beta tertile include Nippon India Growth (betas ranging from 0.910 to 0.953), Edelweiss Mid Cap (0.647 to 0.983—note the wide range, with a dramatic drop in 2024), and Sundaram Mid Cap (0.884 to 0.936). Edelweiss's beta trajectory is particularly notable: from 0.9836 (2021, near-market), to 0.9463 (2022, still high), to 0.9048 (2023, moderate), to 0.6478 (2024, extremely low), to 0.9408 (2025, high again). This volatility in beta suggests an active market-timing strategy that adjusts systematic risk exposure based on market conditions—a strategy that succeeded in 2024 (low beta during a moderate rally) but failed in 2025 (low beta would have been appropriate in a flat market, but Edelweiss increased beta to 0.94 and still underperformed).

4.2.4 Sharpe Ratio of Mid Cap Schemes

Table 4.46 Sharpe Ratio of Mid Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2021	Motilal Oswal Midcap	59.33	17.04	3.35	3.29	1
2021	SBI Midcap	54.14	15.96	3.35	3.18	2
2021	Kotak Midcap	49.03	14.49	3.35	3.15	3
2021	Mirae Asset Midcap	50.92	16.07	3.35	2.96	4
2021	Edelweiss Mid Cap	51.53	17.31	3.35	2.78	5
2021	Axis Midcap	42.5	14.66	3.35	2.67	6
2021	Nippon India Growth Mid Cap	47.99	16.72	3.35	2.67	7
2021	HDFC Mid Cap	39.77	16.07	3.35	2.27	8
2021	Sundaram Mid Cap	39.15	16.56	3.35	2.16	9
2021	DSP Midcap	30.16	14.45	3.35	1.86	10

The year 2021 was a golden period for mid cap investors. The risk-free rate was a modest 3.35%. Against this backdrop, the mid cap segment delivered returns that can only be described as extraordinary. Motilal Oswal Midcap topped the Sharpe Ratio ranking with an impressive score of 3.29. It gave investors a remarkable 59.33% return. SBI Midcap and Kotak Midcap followed very closely with ratios of 3.18 and 3.15. What is interesting is how Kotak Midcap achieved its rank. It earned a return of 49.03%, which was not the highest. But it kept its volatility at just 14.49%, the lowest among all ten funds. This shows that a smoother ride can sometimes be more rewarding than a faster but bumpier one. Mirae Asset and Edelweiss also made it to the top five. Their investors had plenty to smile about. It was a year when the rising tide of the mid cap market lifted almost every boat quite handsomely.

As one moves down the table, the importance of balancing return and risk becomes even clearer. Axis Midcap and Nippon India Growth Mid Cap both ended up with the same Sharpe Ratio of 2.67. Yet their paths were different. Nippon India delivered a higher return of nearly 48%, but it took on significantly more risk with a volatility of 16.72%. That extra turbulence neutralised the advantage of the higher return. HDFC Mid Cap and Sundaram Mid Cap found themselves lower down the order. Their returns in the range of 39% to 40% were good in normal times but fell short of the exceptional standards set by their peers in 2021. At the bottom was DSP Midcap with a Sharpe Ratio of 1.86. Even though its return of 30% was positive, it simply did not keep pace with the rest of the pack. The 2021 mid cap story reminds us of a simple truth. When markets are racing ahead, the funds that can run fast without stumbling too much are the ones that truly win the race on a risk-adjusted basis.

Table 4.47 Sharpe Ratio of Mid Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2022	HDFC Mid Cap	12.15	17.75	4.78	0.42	1
2022	Motilal Oswal Midcap	10.24	18.26	4.78	0.30	2
2022	Nippon India Growth Mid Cap	6.05	17.86	4.78	0.07	3
2022	Kotak Midcap	5.8	16.06	4.78	0.06	4
2022	Mirae Asset Midcap	5.14	16.77	4.78	0.02	5
2022	Sundaram Mid Cap	4.82	17.89	4.78	0.00	6
2022	Edelweiss Mid Cap	3.87	18.62	4.78	-0.05	7
2022	SBI Midcap	2.29	16.57	4.78	-0.15	8
2022	Axis Midcap	-4.68	16.44	4.78	-0.58	9
2022	DSP Midcap	-4.8	16.42	4.78	-0.58	10

The year 2022 was a sobering reality check after the festivities of 2021. The risk-free rate climbed to 4.78%. This higher threshold made it very difficult for mid cap funds to shine on a risk-adjusted basis. HDFC Mid Cap stood tall in this challenging environment. It secured the top rank with a Sharpe Ratio of 0.42. The fund delivered a solid 12.15% return. This was a welcome outcome when many others struggled to stay afloat. Motilal Oswal Midcap followed in second place with a ratio of 0.30. It managed a return of 10.24%. However, its volatility of 18.26% was on the higher side. The fund gave investors some gains but the ride was far from smooth. After these two, the Sharpe Ratios fell off a cliff. Nippon India Growth Mid Cap, Kotak Midcap, and Mirae Asset Midcap barely managed to stay above water. Their ratios hovered between 0.07 and 0.02. They gave returns in the range of 5% to 6%. But when one accounts for the risk taken, the reward was almost negligible.

The lower half of the table tells a story of pain and disappointment. Sundaram Mid Cap sat exactly on the fence with a Sharpe Ratio of zero. It returned just 4.82%, matching the risk-free rate almost perfectly. Edelweiss Mid Cap, SBI Midcap, Axis Midcap, and DSP Midcap all slipped into negative territory. Their Sharpe Ratios ranged from -0.05 to -0.58. This means an investor would have been better off parking money in a risk-free instrument rather than enduring the volatility of these funds. Axis Midcap and DSP Midcap were the worst hit. They posted negative absolute returns of around -4.70% along with negative Sharpe Ratios. It was a year that tested the patience of mid cap investors. The 2022 data drives home a valuable lesson. In difficult market conditions, the ability to protect capital and deliver even modest positive returns is a skill worth respecting. HDFC Mid Cap demonstrated this quiet resilience admirably.

Table 4.48 Sharpe Ratio of Mid Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2023	Nippon India Growth Mid Cap	49.23	10.49	6.87	4.04	1
2023	HDFC Mid Cap	43.6	10.68	6.87	3.44	2
2023	Sundaram Mid Cap	41.85	10.41	6.87	3.36	3
2023	DSP Midcap	39.49	9.95	6.87	3.28	4
2023	SBI Midcap	35.81	9.33	6.87	3.10	5
2023	Motilal Oswal Midcap	42.52	11.56	6.87	3.08	6
2023	Edelweiss Mid Cap	39.91	10.72	6.87	3.08	7
2023	Mirae Asset Midcap	36.31	10.15	6.87	2.90	8
2023	Kotak Midcap	32.66	8.91	6.87	2.89	9
2023	Axis Midcap	30.26	9.05	6.87	2.58	10

The year 2023 brought back the smiles for mid cap investors. The risk-free rate stood at a high 6.87%. Yet every single fund in the list posted a strongly positive Sharpe Ratio. Nippon India Growth Mid Cap led the pack with a stellar Sharpe Ratio of 4.04. It delivered a remarkable return of 49.23%. The fund combined high returns with controlled volatility of 10.49%. HDFC Mid Cap secured the second spot with a ratio of 3.44. Its return of 43.60% was very healthy. Sundaram Mid Cap and DSP Midcap followed closely with ratios of 3.36 and 3.28. What stands out is the impressive all-round performance. The lowest Sharpe Ratio in the table was 2.58 from Axis Midcap. Even this figure would have been considered excellent in most other years. The mid cap segment truly bounced back with vigour in 2023.

A closer look reveals some interesting details about risk and reward. SBI Midcap posted a Sharpe Ratio of 3.10 with the lowest volatility in the group at 9.33%. It gave investors a relatively smoother journey to a 35.81% return. Motilal Oswal Midcap earned a strong return of 42.52%. However, its volatility of 11.56% was the highest among all funds. This pulled its Sharpe Ratio down to 3.08 and placed it in the middle of the table. Kotak Midcap also kept volatility low at 8.91% but its return of 32.66% was modest by 2023 standards. The fund ranked ninth as a result. Axis Midcap brought up the rear. Its return of 30.26% was the lowest. The fund simply could not match the pace of its peers. The 2023 data shows that when the market is generous, most funds do well. Yet the ones that combine strong returns with reasonable risk management rise to the very top. Nippon India Growth Mid Cap was the undisputed star of the year in this regard.

Table 4.49 Sharpe Ratio of Mid Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2024	Motilal Oswal Midcap	59.61	17.02	6.68	3.11	1
2024	Edelweiss Mid Cap	40.85	17.81	6.68	1.92	2
2024	Kotak Midcap	35.63	16.35	6.68	1.77	3
2024	Axis Midcap	31.97	15.24	6.68	1.66	4
2024	Sundaram Mid Cap	32.61	16.17	6.68	1.60	5
2024	HDFC Mid Cap	28.25	16.03	6.68	1.35	6
2024	Nippon India Growth Mid Cap	27.65	17.33	6.68	1.21	7
2024	SBI Midcap	21.45	13.23	6.68	1.12	8
2024	DSP Midcap	23.8	15.8	6.68	1.08	9
2024	Mirae Asset Midcap	20.39	16.07	6.68	0.85	10

The year 2024 was another year of strong gains for mid cap investors, but the distribution of rewards was far from even. The risk-free rate remained elevated at 6.68%. Motilal Oswal Midcap stood head and shoulders above the competition. It posted a Sharpe Ratio of 3.11. This was nearly double the score of the second-ranked fund. The scheme delivered a stunning 59.61% return. Its volatility of 17.02% was high but well worth the ride. Edelweiss Mid Cap came in a distant second with a ratio of 1.92. It returned a very respectable 40.85%. Yet its volatility of 17.81% was the highest in the entire group. Kotak Midcap and Axis Midcap followed with ratios of 1.77 and 1.66. They gave investors solid returns with moderate risk. The gap between the first and second rank tells its own story. Motilal Oswal Midcap operated in a league of its own during 2024.

The lower half of the table reveals a different picture. HDFC Mid Cap, Nippon India Growth Mid Cap, SBI Midcap, and DSP Midcap recorded Sharpe Ratios between 1.35 and 1.08. Their returns ranged from 21% to 28%. In a normal year, these would be considered good numbers. But in the context of 2024, they felt a bit underwhelming. Mirae Asset Midcap brought up the rear with a Sharpe Ratio of 0.85. It delivered the lowest return of 20.39%. Its volatility was a moderate 16.07%. SBI Midcap kept volatility the lowest at 13.23%. However, its return of 21.45% was not enough to lift it higher in the ranking. The 2024 data highlights an important point. In a strong bull market, the funds that take calculated risks and pick the right stocks can create significant wealth. Motilal Oswal Midcap proved this point emphatically. But investors must also remember that such spectacular outperformance often comes with higher volatility and requires a strong stomach for the ups and downs.

Table 4.50 Sharpe Ratio of Mid Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Volatility (%)	Rf	Sharpe	Rank
2025	Mirae Asset Midcap	9.79	16.23	5.80	0.25	1
2025	HDFC Mid Cap	6.82	14.21	5.80	0.07	2
2025	Edelweiss Mid Cap	4.86	16.46	5.80	-0.06	3
2025	Sundaram Mid Cap	4.74	15.66	5.80	-0.07	4
2025	Nippon India Growth Mid Cap	4.22	16.52	5.80	-0.10	5
2025	Kotak Midcap	2.41	16.24	5.80	-0.21	6
2025	DSP Midcap	2.36	15.85	5.80	-0.22	7
2025	Axis Midcap	1.91	15.14	5.80	-0.26	8
2025	SBI Midcap	1.2	12.84	5.80	-0.36	9
2025	Motilal Oswal Midcap	-11.57	17.74	5.80	-0.98	10

The year 2025 brought the mid cap party to an abrupt halt. The risk-free rate stood at 5.80%. Against this backdrop, the Sharpe Ratio figures paint a sobering picture. Mirae Asset Midcap claimed the top spot with a modest Sharpe Ratio of just 0.25. It delivered a return of 9.79%. In any other recent year, this would have been a middle-of-the-pack result. But in 2025, it was enough to lead the table. HDFC Mid Cap was the only other fund to stay in positive territory. Its Sharpe Ratio was a slender 0.07. The fund returned 6.82% with the second lowest volatility of 14.21%. It barely managed to outperform the risk-free rate. The rest of the pack slipped into negative numbers. This means they failed to reward investors for the risk they took.

The fall from grace was most dramatic for Motilal Oswal Midcap. After topping the charts in 2024 with a stellar 3.11 Sharpe Ratio, it crashed to the very bottom with a painful -0.98. The fund posted a negative absolute return of -11.57%. Its volatility of 17.74% was also the highest in the group. This is a classic example of high risk translating into high pain when the market turns. SBI Midcap, Axis Midcap, and DSP Midcap also struggled badly. Their Sharpe Ratios ranged from -0.36 to -0.22. Even funds that usually show resilience, like Edelweiss and Sundaram, could not escape the red. The 2025 data serves as a powerful reminder. Mid cap investing can be a double-edged sword. The same funds that create enormous wealth in good years can erode it swiftly when conditions sour. A disciplined focus on risk-adjusted returns becomes all the more valuable during such turbulent times.

Table 4.51 Sharpe Ratio Rank (1 = Highest) for Mid Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
Axis Midcap	6	9	10	4	8
DSP Midcap	10	10	4	9	7
Edelweiss Mid Cap	5	7	7	2	3
HDFC Mid Cap	8	1	2	6	2
Kotak Midcap	3	4	9	3	6
Mirae Asset Midcap	4	5	8	10	1
Motilal Oswal Midcap	1	2	6	1	10
Nippon India Growth Mid Cap	7	3	1	7	5
SBI Midcap	2	8	5	8	9
Sundaram Mid Cap	9	6	3	5	4

The year-wise Sharpe Ratio rankings across the five-year period offer a clear window into the stability and reliability of mid cap fund performance. A fund that repeatedly appears near the top of the table demonstrates an ability to deliver strong risk-adjusted returns across different market phases. HDFC Mid Cap stands out as the most consistent performer in this group. It ranked first in 2022, second in 2023, and second again in 2025. Even in the other two years, it remained in the upper half of the table. This pattern suggests a disciplined approach that protects investor interests across both rising and falling markets. Edelweiss Mid Cap also showed a steady upward trend. After mid-table finishes in the early years, it rose to second place in 2024 and third in 2025. Sundaram Mid Cap displayed a similar trajectory of gradual improvement, moving from ninth place in 2021 to a consistent presence in the top five during the later years. In contrast, Motilal Oswal Midcap presents a striking picture of extremes. It achieved the top rank in 2021 and again in 2024. Yet it fell to tenth position in 2025. Such sharp swings indicate that while the fund can deliver exceptional results in favourable conditions, its year-to-year outcomes are highly unpredictable. Mirae Asset Midcap also showed considerable variation, moving from the middle of the table to the very bottom in 2024, only to rise to the top rank in 2025.

The rankings also highlight funds that have faced persistent difficulties in generating competitive risk-adjusted returns. Axis Midcap and DSP Midcap spent much of the five-year period in the lower half of the table. Axis Midcap ranked tenth in 2023 and eighth in 2025, with only a brief improvement to fourth in 2024. DSP Midcap occupied

the tenth position in both 2021 and 2022 before a temporary rise to fourth in 2023. However, it slipped back to ninth and seventh in the following years. SBI Midcap began the period strongly with a second-place finish in 2021 but then drifted downward, ranking ninth in 2025. Kotak Midcap also showed a decline after an early strong showing, moving from third in 2021 to sixth in 2025 with a dip to ninth in 2023. Nippon India Growth Mid Cap achieved the top rank in 2023 but could not sustain that position, falling to seventh in 2024 and fifth in 2025. The overall evidence from the five-year Sharpe Ratio rankings underscores an important observation. The mid cap segment is inherently more volatile than large caps, and this volatility is reflected in the year-to-year rank movements. A fund that can maintain a presence in the upper half of the table across multiple years, as HDFC Mid Cap has done, offers a degree of dependability that is valuable for long-term investors. A single year of top performance, while welcome, does not by itself guarantee future success in this dynamic segment.

4.2.5 Treynor Ratio of Mid Cap Schemes

Table 4.52 Treynor Ratio of Mid Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2021	Motilal Oswal Midcap	59.33	0.89645	3.35	62.45	1
2021	SBI Midcap	54.14	0.87232	3.35	58.22	2
2021	Kotak Midcap	49.03	0.81178	3.35	56.27	3
2021	Mirae Asset Midcap	50.92	0.89645	3.35	53.06	4
2021	Axis Midcap	42.5	0.79765	3.35	49.08	5
2021	Edelweiss Mid Cap	51.53	0.98357	3.35	48.98	6
2021	Nippon India Growth Mid Cap	47.99	0.94712	3.35	47.13	7
2021	HDFC Mid Cap	39.77	0.9062	3.35	40.19	8
2021	Sundaram Mid Cap	39.15	0.93593	3.35	38.25	9
2021	DSP Midcap	30.16	0.80934	3.35	33.13	10

The year 2021 was a spectacular one for mid cap funds on the Treynor measure. The risk-free rate was just 3.35%. Motilal Oswal Midcap led the pack with an outstanding Treynor Ratio of 62.45. It delivered a remarkable return of 59.33%. Its beta was 0.90, which was below the market level. The fund gave investors a fantastic ride without excessive market sensitivity. SBI Midcap followed in second place with a ratio of

58.22. It returned 54.14% with a beta of 0.87. Kotak Midcap secured third spot with a ratio of 56.27. It posted a return of 49.03% and kept its beta the lowest among the top funds at 0.81. Mirae Asset Midcap came next with a ratio of 53.06. Its return of 50.92% came with a beta of 0.90. Axis Midcap rounded out the top five with a ratio of 49.08. It returned 42.50% with the second lowest beta of 0.80. The lower market risk helped its standing despite a relatively modest return.

Edelweiss Mid Cap and Nippon India Growth Mid Cap posted Treynor Ratios of 48.98 and 47.13. Edelweiss earned a strong return of 51.53%. But its beta was the highest in the group at 0.98. This near-market sensitivity pulled its ratio down. Nippon India returned 47.99% with a beta of 0.95. HDFC Mid Cap and Sundaram Mid Cap recorded ratios of 40.19 and 38.25. Their returns were around 39% to 40% with betas close to 0.91 and 0.94. DSP Midcap ranked last with a Treynor Ratio of 33.13. It returned just 30.16%, which was the lowest among all funds. Its beta of 0.81 was low, but the weak return could not be masked. The 2021 Treynor data shows that mid cap funds can generate exceptional risk-adjusted rewards when the market is favourable. Motilal Oswal Midcap was the undisputed star, combining a massive return with sensible market risk exposure.

Table 4.53 Treynor Ratio of Mid Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2022	HDFC Mid Cap	12.15	0.89237	4.78	8.26	1
2022	Motilal Oswal Midcap	10.24	0.83163	4.78	6.57	2
2022	Nippon India Growth Mid Cap	6.05	0.9102	4.78	1.40	3
2022	Kotak Midcap	5.8	0.80755	4.78	1.26	4
2022	Mirae Asset Midcap	5.14	0.84678	4.78	0.43	5
2022	Sundaram Mid Cap	4.82	0.90783	4.78	0.04	6
2022	Edelweiss Mid Cap	3.87	0.94629	4.78	-0.96	7
2022	SBI Midcap	2.29	0.81846	4.78	-3.04	8
2022	Axis Midcap	-4.68	0.8185	4.78	-11.56	9
2022	DSP Midcap	-4.8	0.8261	4.78	-11.60	10

The year 2022 was a sobering one for mid cap funds. The risk-free rate climbed to 4.78%. Only six funds managed to keep their Treynor Ratios in positive territory. HDFC Mid Cap led the way with a ratio of 8.26. It delivered a return of 12.15% with a beta of 0.89. The fund took below-market risk and still produced a healthy double-digit return. Motilal Oswal Midcap followed with a ratio of 6.57. It returned 10.24% and kept its beta even lower at 0.83. Nippon India Growth Mid Cap and Kotak Midcap came next with slim ratios of 1.40 and 1.26. Their returns were just above 6% and 5.80%. Mirae Asset Midcap and Sundaram Mid Cap barely stayed in the green with ratios of 0.43 and 0.04. They gave returns of around 5% and 4.80%. It was a year where even the top performers had to work hard for modest rewards.

The second half of the table tells a more painful story. Edelweiss Mid Cap slipped into negative territory with a Treynor Ratio of -0.96. It returned only 3.87% while carrying the highest beta in the group at 0.95. The near-market risk was not rewarded. SBI Midcap fared worse with a ratio of -3.04. Its return was a meagre 2.29%. Axis Midcap and DSP Midcap brought up the rear with deeply negative ratios of -11.56 and -11.60. Both funds posted absolute losses of around -4.70%. Their betas were moderate at about 0.82 and 0.83. But when returns turn negative, even a low beta cannot salvage the Treynor Ratio. The 2022 Treynor data drives home a hard truth. In a difficult market, a fund's ability to generate positive returns matters far more than its beta. HDFC Mid Cap and Motilal Oswal Midcap showed that disciplined stock selection can still deliver decent risk-adjusted rewards even when the broader market struggles.

Table 4.54 Treynor Ratio of Mid Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2023	Nippon India Growth Mid Cap	49.23	0.92474	6.87	45.81	1
2023	Motilal Oswal Midcap	42.52	0.81817	6.87	43.57	2
2023	HDFC Mid Cap	43.6	0.92253	6.87	39.81	3
2023	DSP Midcap	39.49	0.84063	6.87	38.80	4
2023	SBI Midcap	35.81	0.75477	6.87	38.34	5
2023	Sundaram Mid Cap	41.85	0.91593	6.87	38.19	6
2023	Edelweiss Mid Cap	39.91	0.90483	6.87	36.52	7
2023	Kotak Midcap	32.66	0.75313	6.87	34.24	8
2023	Mirae Asset Midcap	36.31	0.88063	6.87	33.43	9
2023	Axis Midcap	30.26	0.74609	6.87	31.35	10

The year 2023 brought a strong recovery for mid cap funds, and the Treynor Ratios reflected this renewed energy. The risk-free rate was high at 6.87%. Yet every fund posted a robust positive ratio. Nippon India Growth Mid Cap claimed the top spot with an impressive Treynor Ratio of 45.81. It delivered a standout return of 49.23% with a beta of 0.92. The fund took slightly below-market risk and earned exceptional rewards. Motilal Oswal Midcap followed very closely with a ratio of 43.57. It returned 42.52% and kept its beta low at 0.82. The combination of strong return and controlled market sensitivity worked wonderfully. HDFC Mid Cap secured third place with a ratio of 39.81. It earned a solid 43.60% return with a beta of 0.92. DSP Midcap and SBI Midcap came next with ratios of 38.80 and 38.34. SBI Midcap recorded the lowest beta in the entire group at just 0.75. Its return of 35.81% was modest but the very low market risk pushed its ratio up.

Sundaram Mid Cap and Edelweiss Mid Cap posted Treynor Ratios of 38.19 and 36.52. Their returns were above 41% and 39% respectively with betas around 0.91. Kotak Midcap managed a ratio of 34.24. It returned 32.66% with the second lowest beta of 0.75. Mirae Asset Midcap recorded a ratio of 33.43 with a return of 36.31%. Axis Midcap ranked last with a Treynor Ratio of 31.35. It delivered the lowest return of 30.26% with a beta of 0.75. Even a low beta could not lift it higher. The 2023 Treynor data shows that when the mid cap market rebounds, funds that balance return and market risk effectively rise to the top. Nippon India Growth Mid Cap and Motilal Oswal Midcap did this best and gave their investors plenty to cheer about.

Table 4.55 Treynor Ratio of Mid Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2024	Motilal Oswal Midcap	59.61	0.82078	6.68	64.49	1
2024	Edelweiss Mid Cap	40.85	0.64782	6.68	52.75	2
2024	Axis Midcap	31.97	0.65856	6.68	38.40	3
2024	SBI Midcap	21.45	0.44647	6.68	33.08	4
2024	Kotak Midcap	35.63	0.88845	6.68	32.58	5
2024	Sundaram Mid Cap	32.61	0.88447	6.68	29.32	6
2024	HDFC Mid Cap	28.25	0.87713	6.68	24.59	7
2024	Nippon India Growth Mid Cap	27.65	0.95344	6.68	21.99	8
2024	DSP Midcap	23.8	0.85829	6.68	19.95	9
2024	Mirae Asset Midcap	20.39	0.87231	6.68	15.72	10

The year 2024 was another year of strong gains for mid cap funds, but the Treynor Ratios showed a wide gap between the best and the rest. The risk-free rate stood at 6.68%. Motilal Oswal Midcap delivered a performance that was nothing short of extraordinary. It topped the table with a Treynor Ratio of 64.49. The fund returned a stunning 59.61% while keeping its beta at a moderate 0.82. It gave investors a massive reward for the market risk taken. Edelweiss Mid Cap came a distant second with a ratio of 52.75. Its return of 40.85% was very healthy. More importantly, its beta was remarkably low at just 0.65. The fund took on far less market risk than most peers and still delivered excellent returns. Axis Midcap and SBI Midcap secured third and fourth places with ratios of 38.40 and 33.08. SBI Midcap recorded the lowest beta in the entire group at a mere 0.45. Its return of 21.45% was modest. But the extremely low market sensitivity boosted its Treynor Ratio significantly.

Kotak Midcap and Sundaram Mid Cap followed with ratios of 32.58 and 29.32. Their returns were around 35% and 32% with betas close to 0.88. HDFC Mid Cap and Nippon India Growth Mid Cap posted ratios of 24.59 and 21.99. Nippon India carried the highest beta in the group at 0.95. Its return of 27.65% was not enough to compensate for the near-market risk. DSP Midcap managed a ratio of 19.95 with a return of 23.80%. Mirae Asset Midcap brought up the rear with a Treynor Ratio of just 15.72. It returned the lowest at 20.39% with a beta of 0.87. The fund simply could not convert its market exposure into adequate returns. The 2024 Treynor data reinforces a clear message. In the mid cap space, stock selection matters far more than beta. Motilal Oswal Midcap proved this by generating exceptional returns without taking on excessive market risk.

Table 4.56 Treynor Ratio of Mid Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Beta	Rf	Treynor	Rank
2025	Mirae Asset Midcap	9.79	0.92976	5.80	4.29	1
2025	HDFC Mid Cap	6.82	0.80372	5.80	1.27	2
2025	Edelweiss Mid Cap	4.86	0.94079	5.80	-1.00	3
2025	Sundaram Mid Cap	4.74	0.89636	5.80	-1.18	4
2025	Nippon India Growth Mid Cap	4.22	0.94922	5.80	-1.66	5
2025	Kotak Midcap	2.41	0.91152	5.80	-3.72	6
2025	DSP Midcap	2.36	0.89015	5.80	-3.86	7
2025	Axis Midcap	1.91	0.63815	5.80	-6.10	8
2025	SBI Midcap	1.2	0.53268	5.80	-8.64	9
2025	Motilal Oswal Midcap	-11.57	0.88794	5.80	-19.56	10

The year 2025 was a painful one for mid cap investors, and the Treynor Ratios tell a grim story. The risk-free rate was 5.80%. Only two funds managed to stay in positive territory. Mirae Asset Midcap claimed the top spot with a Treynor Ratio of just 4.29. It delivered a return of 9.79% with a beta of 0.93. The fund took near-market risk but at least gave investors a return above the risk-free hurdle. HDFC Mid Cap followed in second place with a slim ratio of 1.27. It returned 6.82% and kept its beta lower at 0.80. After these two, the numbers turned red. Eight out of ten funds failed to reward investors for the market risk they carried. It was a year that tested the faith of even the most patient mid cap enthusiasts.

Edelweiss Mid Cap and Sundaram Mid Cap slipped into negative territory with ratios of -1.00 and -1.18. Their returns of around 4.80% could not beat the risk-free rate. Nippon India Growth Mid Cap posted a ratio of -1.66. It carried the highest beta in the group at 0.95. Kotak Midcap, DSP Midcap, and Axis Midcap recorded ratios between -3.72 and -6.10. SBI Midcap had a ratio of -8.64. Its beta was the lowest at just 0.53, but a return of only 1.20% offered no shelter. The most dramatic fall came from Motilal Oswal Midcap. After topping the chart in 2024 with a stellar ratio of 64.49, it crashed to the very bottom with -19.56. The fund lost 11.57% in absolute terms. Its beta of 0.89 was moderate, but a negative return simply destroys the Treynor Ratio. The 2025 data serves as a stark reminder. In the mid cap space, the highs can be very high and the lows can be very low. Managing market risk helps, but when returns turn negative, no amount of low beta can save the day.

Table 4.57 Treynor Ratio Rank (1 = Highest) for Mid Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
Axis Midcap	5	9	10	3	8
DSP Midcap	10	10	4	9	7
Edelweiss Mid Cap	6	7	7	2	3
HDFC Mid Cap	8	1	3	7	2
Kotak Midcap	3	4	8	5	6
Mirae Asset Midcap	4	5	9	10	1
Motilal Oswal Midcap	1	2	2	1	10
Nippon India Growth Mid Cap	7	3	1	8	5
SBI Midcap	2	8	5	4	9
Sundaram Mid Cap	9	6	6	6	4

The Treynor Ratio measures the return earned for each unit of market risk taken. A consistently high rank on this measure indicates that the fund manager has been able to generate healthy returns without taking on excessive sensitivity to broader market movements. The five-year ranking data for mid cap funds reveals a wide range of consistency patterns. HDFC Mid Cap stands out as a notably steady performer. It ranked first in 2022, third in 2023, and second in 2025. Even in the other two years, it remained within the top eight. This pattern suggests a dependable ability to balance return and market sensitivity across different conditions. Edelweiss Mid Cap showed a clear upward trajectory. It moved from the middle of the table in the early years to second place in 2024 and third in 2025. This gradual improvement reflects growing stability in its risk-adjusted approach. Sundaram Mid Cap also demonstrated a degree of steadiness, holding the sixth rank for three consecutive years from 2022 to 2024 before rising to fourth in 2025. In contrast, Motilal Oswal Midcap presents a stark picture of extremes. It secured the top rank in 2021 and 2024, and held second place in 2022 and 2023. Yet it fell dramatically to the tenth and final position in 2025. Such a sharp decline highlights the unpredictable nature of mid cap investing, where a fund that excels for several years can face a sudden and severe reversal.

The rankings also identify funds that have struggled to maintain a competitive position on this measure. Axis Midcap and DSP Midcap spent much of the five-year period in the lower half of the table. DSP Midcap ranked tenth in both 2021 and 2022. It

improved to fourth in 2023 but then slipped back to ninth and seventh in the following years. Axis Midcap similarly recorded ranks of ninth in 2022, tenth in 2023, and eighth in 2025. Mirae Asset Midcap displayed considerable volatility. It moved from fourth and fifth in the early years to ninth and tenth in 2023 and 2024, only to rise sharply to the top rank in 2025. SBI Midcap began the period strongly with a second-place finish in 2021 but then saw its ranks decline, falling to ninth in 2025. Kotak Midcap and Nippon India Growth Mid Cap showed mixed patterns without a clear sustained direction. The overall evidence from the Treynor Ratio rankings reinforces an important lesson for investors in the mid cap space. Volatility in year-to-year rankings is more pronounced than in the large cap segment. Funds that manage to remain in the upper half of the table across multiple years, such as HDFC Mid Cap and Edelweiss Mid Cap in recent years, offer a measure of reliability that is valuable in this inherently dynamic category. A single year of top performance, while gratifying, does not assure continued success.

4.2.6 Jensen's Alpha Ratio of Mid Cap Schemes

Table 4.58 Jensen's Alpha of Mid Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Jensen	Rank
2021	Motilal Oswal Midcap	59.33	0.89645	3.35	46.77	17.05	1
2021	SBI Midcap	54.14	0.87232	3.35	46.77	12.91	2
2021	Kotak Midcap	49.03	0.81178	3.35	46.77	10.43	3
2021	Mirae Asset Midcap	50.92	0.89645	3.35	46.77	8.64	4
2021	Edelweiss Mid Cap	51.53	0.98357	3.35	46.77	5.47	5
2021	Axis Midcap	42.5	0.79765	3.35	46.77	4.51	6
2021	Nippon India Growth Mid Cap	47.99	0.94712	3.35	46.77	3.51	7
2021	HDFC Mid Cap	39.77	0.9062	3.35	46.77	-2.93	8
2021	Sundaram Mid Cap	39.15	0.93593	3.35	46.77	-4.84	9
2021	DSP Midcap	30.16	0.80934	3.35	46.77	-8.34	10

Jensen's Alpha measures the excess return a fund generates over and above what its beta would predict. A positive alpha means the fund manager added value through stock selection or timing. In 2021, the market return was a remarkable 46.77%. The risk-free rate stood at 3.35%. Motilal Oswal Midcap delivered an outstanding alpha of 17.05%. This was the highest among all funds. It earned a return of 59.33%, which was far above what its beta of 0.90 would suggest. The fund manager clearly added significant value. SBI Midcap followed with an alpha of 12.91%. Its return of 54.14% on a beta of 0.87 showed strong stock picking. Kotak Midcap and Mirae Asset Midcap posted alphas of 10.43% and 8.64%. Both funds beat their expected returns by a healthy margin. Edelweiss Mid Cap and Axis Midcap also recorded positive alphas of 5.47% and 4.51%. Nippon India Growth Mid Cap managed a small positive alpha of 3.51%. These seven funds rewarded investors with returns beyond what market risk alone would justify.

The lower half of the table tells a different story. HDFC Mid Cap slipped into negative territory with an alpha of -2.93%. It returned 39.77%. Given its beta of 0.91, the market expected a higher return. The fund fell short of that expectation. Sundaram Mid Cap recorded an alpha of -4.84%. Its return of 39.15% was below the predicted level. DSP Midcap ranked last with an alpha of -8.34%. It returned just 30.16% with a beta of 0.81. The fund underperformed significantly on a risk-adjusted basis. The 2021 Jensen's Alpha data shows that in a roaring bull market, not every fund manager can keep pace with the market's expectations. Motilal Oswal Midcap stood out by delivering returns that far exceeded what its beta would predict. A high positive alpha is the mark of genuine outperformance.

Table 4.59 Jensen's Alpha of Mid Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Jensen	Rank
2022	HDFC Mid Cap	12.15	0.89237	4.78	2.54	9.37	1
2022	Motilal Oswal Midcap	10.24	0.83163	4.78	2.54	7.32	2
2022	Nippon India Growth Mid Cap	6.05	0.9102	4.78	2.54	3.31	3
2022	Kotak Midcap	5.8	0.80755	4.78	2.54	2.83	4
2022	Mirae Asset Midcap	5.14	0.84678	4.78	2.54	2.25	5
2022	Sundaram Mid Cap	4.82	0.90783	4.78	2.54	2.07	6
2022	Edelweiss Mid Cap	3.87	0.94629	4.78	2.54	1.21	7
2022	SBI Midcap	2.29	0.81846	4.78	2.54	-0.66	8
2022	Axis Midcap	-4.68	0.8185	4.78	2.54	-7.63	9
2022	DSP Midcap	-4.8	0.8261	4.78	2.54	-7.73	10

The year 2022 was a difficult one for mid cap funds, and Jensen's Alpha captures the struggle well. The market return was a meagre 2.54%. The risk-free rate was elevated at 4.78%. HDFC Mid Cap stood out with a positive alpha of 9.37%. It delivered a return of 12.15% with a beta of 0.89. The fund manager clearly added value when the broader market offered little. Motilal Oswal Midcap followed with an alpha of 7.32%. Its return of 10.24% on a beta of 0.83 showed strong defensive stock selection. Nippon India Growth Mid Cap, Kotak Midcap, Mirae Asset Midcap, Sundaram Mid Cap, and Edelweiss Mid Cap all recorded positive alphas. Their values ranged from 3.31% down to 1.21%. Their returns were modest but still exceeded what their betas would predict. In a flat market, any positive alpha is a sign of good fund management.

The lower ranks revealed the pain of underperformance. SBI Midcap slipped into negative territory with an alpha of -0.66%. It returned just 2.29% with a beta of 0.82. The fund barely kept pace with the risk-free rate. Axis Midcap and DSP Midcap suffered heavy negative alphas of -7.63% and -7.73%. Both funds posted absolute losses of around -4.70%. Their betas were moderate, but the returns were far below expectations. The 2022 Jensen's Alpha data makes one thing very clear. When the market is stagnant, a fund manager's stock picking skill becomes the only real source of return. HDFC Mid Cap and Motilal Oswal Midcap proved that active management can still add value even in a tough year. A negative alpha, on the other hand, signals that investors would have been better off with a passive index fund.

Table 4.60 Jensen's Alpha of Mid Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Jensen	Rank
2023	Nippon India Growth Mid Cap	49.23	0.92474	6.87	43.47	8.51	1
2023	Motilal Oswal Midcap	42.52	0.81817	6.87	43.47	5.70	2
2023	HDFC Mid Cap	43.6	0.92253	6.87	43.47	2.96	3
2023	DSP Midcap	39.49	0.84063	6.87	43.47	1.85	4
2023	Sundaram Mid Cap	41.85	0.91593	6.87	43.47	1.46	5
2023	SBI Midcap	35.81	0.75477	6.87	43.47	1.31	6
2023	Edelweiss Mid Cap	39.91	0.90483	6.87	43.47	-0.08	7
2023	Kotak Midcap	32.66	0.75313	6.87	43.47	-1.78	8
2023	Mirae Asset Midcap	36.31	0.88063	6.87	43.47	-2.79	9
2023	Axis Midcap	30.26	0.74609	6.87	43.47	-3.92	10

The year 2023 saw a strong recovery in the mid cap space, and Jensen's Alpha tells us which fund managers truly added value. The market return was a robust 43.47%. The risk-free rate stood at 6.87%. Nippon India Growth Mid Cap led the way with an impressive alpha of 8.51%. It delivered a return of 49.23% with a beta of 0.92. The fund manager generated returns well above what the market risk would predict. Motilal Oswal Midcap followed with an alpha of 5.70%. It returned 42.52% on a beta of just 0.82. This shows the manager extracted strong gains while taking below-market risk. HDFC Mid Cap and DSP Midcap posted alphas of 2.96% and 1.85%. Sundaram Mid Cap and SBI Midcap also stayed in positive territory with alphas of 1.46% and 1.31%. Six funds rewarded investors with excess returns beyond expectations. It was a year where skilled stock picking paid off.

The story turned less favourable for the bottom four funds. Edelweiss Mid Cap barely missed the mark with an alpha of -0.08%. Its return of 39.91% was almost exactly what its beta of 0.90 would predict. Kotak Midcap recorded a negative alpha of -1.78%. It returned 32.66% with a beta of 0.75. The low beta helped, but the return still fell short of expectations. Mirae Asset Midcap and Axis Midcap brought up the rear with alphas of -2.79% and -3.92%. Axis Midcap returned just 30.26%, which was the lowest among all funds. Its beta of 0.75 was low, yet the return was disappointing. The 2023 Jensen's Alpha data shows that even in a rising market, not every fund manager can beat the expected return. Nippon India Growth Mid Cap and Motilal Oswal Midcap

demonstrated genuine outperformance. A positive alpha is the clearest sign that a fund manager has earned their fees.

Table 4.61 Jensen's Alpha of Mid Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Jensen	Rank
2024	Motilal Oswal Midcap	59.61	0.82078	6.68	21.53	40.74	1
2024	Edelweiss Mid Cap	40.85	0.64782	6.68	21.53	24.55	2
2024	Kotak Midcap	35.63	0.88845	6.68	21.53	15.75	3
2024	Axis Midcap	31.97	0.65856	6.68	21.53	15.51	4
2024	Sundaram Mid Cap	32.61	0.88447	6.68	21.53	12.79	5
2024	HDFC Mid Cap	28.25	0.87713	6.68	21.53	8.54	6
2024	SBI Midcap	21.45	0.44647	6.68	21.53	8.14	7
2024	Nippon India Growth Mid Cap	27.65	0.95344	6.68	21.53	6.81	8
2024	DSP Midcap	23.8	0.85829	6.68	21.53	4.37	9
2024	Mirae Asset Midcap	20.39	0.87231	6.68	21.53	0.75	10

The year 2024 was a year of strong gains for mid cap funds, and Jensen's Alpha reveals which fund managers truly outperformed. The market return was a healthy 21.53%. The risk-free rate stood at 6.68%. Motilal Oswal Midcap delivered an extraordinary alpha of 40.74%. This was far ahead of every other fund. It earned a stunning return of 59.61% with a beta of just 0.82. The fund manager added massive value through stock selection. Edelweiss Mid Cap came a distant second with an alpha of 24.55%. Its return of 40.85% on a low beta of 0.65 was very impressive. Kotak Midcap and Axis Midcap followed with alphas of 15.75% and 15.51%. Sundaram Mid Cap also recorded a solid alpha of 12.79%. These five funds gave investors returns that comfortably beat market expectations.

HDFC Mid Cap, SBI Midcap, Nippon India Growth Mid Cap, and DSP Midcap posted alphas ranging from 8.54% down to 4.37%. Their returns were positive but more modest in the context of the market rally. SBI Midcap had the lowest beta of all at just 0.45. Its return of 21.45% was almost exactly the market return, but with far less risk. Mirae Asset Midcap brought up the rear with a slim alpha of just 0.75%. It returned 20.39% with a beta of 0.87. The fund barely exceeded the expected return. The 2024 Jensen's Alpha data shows that in a rising mid cap market, the best fund managers can generate returns far beyond what their beta would suggest. Motilal Oswal Midcap was

in a league of its own. A high alpha is the truest measure of a fund manager's skill, and in 2024, the skill gap between the top and the rest was clearly visible.

Table 4.62 Jensen's Alpha of Mid Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Beta	Rf	Rm	Jensen	Rank
2025	Mirae Asset Midcap	9.79	0.92976	5.80	5.90	3.90	1
2025	HDFC Mid Cap	6.82	0.80372	5.80	5.90	0.94	2
2025	Edelweiss Mid Cap	4.86	0.94079	5.80	5.90	-1.03	3
2025	Sundaram Mid Cap	4.74	0.89636	5.80	5.90	-1.15	4
2025	Nippon India Growth Mid Cap	4.22	0.94922	5.80	5.90	-1.67	5
2025	Kotak Midcap	2.41	0.91152	5.80	5.90	-3.48	6
2025	DSP Midcap	2.36	0.89015	5.80	5.90	-3.53	7
2025	Axis Midcap	1.91	0.63815	5.80	5.90	-3.95	8
2025	SBI Midcap	1.2	0.53268	5.80	5.90	-4.65	9
2025	Motilal Oswal Midcap	-11.57	0.88794	5.80	5.90	-17.46	10

The year 2025 was a sobering one for mid cap funds, and Jensen's Alpha captures the struggle clearly. The market return was a modest 5.90%. The risk-free rate stood at 5.80%. With such a narrow gap between market and risk-free returns, generating positive alpha became very difficult. Only two funds managed to stay in the green. Mirae Asset Midcap claimed the top spot with an alpha of 3.90%. It delivered a return of 9.79% with a beta of 0.93. The fund manager squeezed out some extra value despite the sluggish market. HDFC Mid Cap followed with a slim alpha of 0.94%. It returned 6.82% and kept its beta lower at 0.80. After these two, every other fund slipped into negative territory. Eight out of ten funds failed to beat the return expected given their market risk.

The rest of the table tells a story of disappointment. Edelweiss Mid Cap, Sundaram Mid Cap, and Nippon India Growth Mid Cap recorded alphas between -1.03% and -1.67%. Their returns of around 4% to 5% were below expectations. Kotak Midcap, DSP Midcap, and Axis Midcap fared worse with alphas around -3.50% to -3.95%. SBI Midcap posted an alpha of -4.65%. Its beta was the lowest at 0.53, but a return of just 1.20% offered no help. The most dramatic fall came from Motilal Oswal Midcap. After topping the chart in 2024 with an alpha of 40.74%, it crashed to the very bottom with -17.46%. The fund lost 11.57% in absolute terms. Its beta of 0.89 was moderate, yet the

negative return was far below what even a flat market would predict. The 2025 Jensen's Alpha data serves as a stark reminder. Mid cap investing can be volatile, and a fund manager's skill is truly tested in difficult years. Mirae Asset Midcap managed to stay afloat when most others sank.

Table 4.63 Jensen's Alpha Rank (1 = Highest) for Mid Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
Axis Midcap	6	9	10	4	8
DSP Midcap	10	10	4	9	7
Edelweiss Mid Cap	5	7	7	2	3
HDFC Mid Cap	8	1	3	6	2
Kotak Midcap	3	4	8	3	6
Mirae Asset Midcap	4	5	9	10	1
Motilal Oswal Midcap	1	2	2	1	10
Nippon India Growth Mid Cap	7	3	1	8	5
SBI Midcap	2	8	6	7	9
Sundaram Mid Cap	9	6	5	5	4

Jensen's Alpha measures the excess return a fund generates beyond what its level of market risk would normally predict. A consistently high rank on this measure suggests that the fund manager has repeatedly added genuine value through thoughtful stock selection. The five-year ranking data for mid cap funds reveals which managers have demonstrated this skill on a sustained basis. HDFC Mid Cap emerges as a notably steady performer. It ranked first in 2022, third in 2023, and second in 2025. Even in the years when it did not top the table, it stayed within the top eight. This pattern indicates a disciplined stock picking approach that works across different market environments. Edelweiss Mid Cap showed a clear upward trend over the period. It moved from middle and lower ranks in the early years to second place in 2024 and third in 2025. This gradual improvement suggests that the fund's stock selection process has matured and strengthened. Sundaram Mid Cap also displayed a steady climb, moving from ninth in 2021 to fifth and fourth in the later years. In sharp contrast, Motilal Oswal Midcap presents a dramatic picture of highs and lows. It secured the top rank in 2021 and 2024, and held second place in 2022 and 2023. Yet it fell abruptly to the tenth and final position in 2025. Such a swing from first to last highlights the inherent

unpredictability of the mid cap space, where even the most successful managers can face sudden setbacks.

The rankings also bring attention to funds that have faced persistent challenges in generating excess returns. Axis Midcap and DSP Midcap spent much of the five-year period in the lower reaches of the table. DSP Midcap ranked tenth in both 2021 and 2022. It improved to fourth in 2023 but then slipped back to ninth and seventh in the following years. Axis Midcap recorded ranks of ninth in 2022, tenth in 2023, and eighth in 2025, with only a brief rise to fourth in 2024. Mirae Asset Midcap displayed considerable variation, moving from fourth and fifth in the early years to ninth and tenth in 2023 and 2024, only to surge to the top rank in 2025. SBI Midcap began the period strongly with a second-place finish in 2021 but then saw its ranks drift downward, falling to ninth in 2025. Kotak Midcap and Nippon India Growth Mid Cap showed mixed patterns without a clear sustained direction. The overall evidence from the Jensen's Alpha rankings underscores a simple but important truth. The mid cap segment is inherently more volatile than large caps, and this volatility is reflected in the year-to-year rank movements. Funds that manage to stay in the upper half of the table across multiple years, such as HDFC Mid Cap and the improving Edelweiss Mid Cap, offer a degree of dependability that is valuable for long-term investors. A single year of outstanding performance, while encouraging, does not by itself assure continued success in this dynamic and fast-changing segment.

4.2.7 Fama Net Selectivity Ratio of Mid Cap Schemes

Table 4.64 Fama Decomposition – Net Selectivity of Mid Cap Schemes – 2021

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2021	Motilal Oswal Midcap	59.33	42.28	46.69	12.64	4.41	1
2021	SBI Midcap	54.14	41.23	43.94	10.20	2.71	2
2021	Kotak Midcap	49.03	38.60	40.20	8.83	1.60	3
2021	Mirae Asset Midcap	50.92	42.28	44.22	6.70	1.94	4
2021	Edelweiss Mid Cap	51.53	46.06	47.38	4.15	1.31	5
2021	Nippon India Growth Mid Cap	47.99	44.48	45.88	2.11	1.40	6
2021	Axis Midcap	42.5	37.99	40.64	1.86	2.65	7
2021	HDFC Mid Cap	39.77	42.70	44.22	-4.45	1.52	8
2021	Sundaram Mid Cap	39.15	43.99	45.47	-6.32	1.48	9
2021	DSP Midcap	30.16	38.50	40.10	-9.94	1.61	10

Fama decomposition breaks down a fund's total return into different parts. It separates the return that comes from market risk from the return that comes purely from the fund manager's stock picking skill. Net selectivity is the key number here. It shows how much value the manager added beyond what the market exposure would naturally provide. In 2021, the mid cap segment delivered exceptional returns. Motilal Oswal Midcap topped the table with a net selectivity of 12.64%. This means the fund manager added substantial value through smart stock selection. The fund earned a total return of 59.33%. Its diversification component of 4.41% was also the highest. This shows that spreading investments across different stocks helped as well. SBI Midcap followed with a net selectivity of 10.20%. Kotak Midcap and Mirae Asset Midcap also posted healthy scores of 8.83% and 6.70%. These four funds clearly benefited from good stock picks and sensible diversification.

Edelweiss Mid Cap, Nippon India Growth Mid Cap, and Axis Midcap recorded positive but more modest net selectivity. Their scores ranged from 4.15% down to 1.86%. They added some value, just not as much as the top names. The picture changed for the bottom three funds. HDFC Mid Cap, Sundaram Mid Cap, and DSP Midcap all posted negative net selectivity. This means their stock picks actually detracted from

returns. DSP Midcap had the weakest showing with a net selectivity of -9.94%. Its total return of 30.16% was the lowest among all funds. The diversification scores were positive for everyone. This shows that spreading the portfolio helped all funds to some extent. But stock selection was the real game changer. The 2021 Fama data makes one thing very clear. In a strong bull market, the fund manager's ability to pick the right stocks separates the outstanding performers from the rest. Motilal Oswal Midcap demonstrated this skill most effectively.

Table 4.65 Fama Decomposition – Net Selectivity of Mid Cap Schemes – 2022

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2022	HDFC Mid Cap	12.15	2.78	2.71	9.44	-0.07	1
2022	Motilal Oswal Midcap	10.24	2.92	2.65	7.59	-0.27	2
2022	Nippon India Growth Mid Cap	6.05	2.74	2.70	3.35	-0.04	3
2022	Kotak Midcap	5.8	2.97	2.91	2.89	-0.06	4
2022	Mirae Asset Midcap	5.14	2.89	2.83	2.31	-0.06	5
2022	Sundaram Mid Cap	4.82	2.75	2.70	2.12	-0.05	6
2022	Edelweiss Mid Cap	3.87	2.66	2.61	1.26	-0.05	7
2022	SBI Midcap	2.29	2.95	2.85	-0.56	-0.10	8
2022	Axis Midcap	-4.68	2.95	2.87	-7.55	-0.08	9
2022	DSP Midcap	-4.8	2.93	2.87	-7.67	-0.06	10

The year 2022 was a tough one for mid cap funds. Fama decomposition helps us see where the limited returns actually came from. Net selectivity is the key measure. It tells us how much value the fund manager added through stock selection alone. HDFC Mid Cap topped the table with a net selectivity of 9.44%. This was a strong number given the flat market. The fund earned a total return of 12.15%. The manager's stock picks clearly made the difference. Motilal Oswal Midcap followed with a net selectivity of 7.59%. It returned 10.24%. Nippon India Growth Mid Cap, Kotak Midcap, Mirae Asset Midcap, Sundaram Mid Cap, and Edelweiss Mid Cap also posted positive net selectivity. Their scores ranged from 3.35% down to 1.26%. These fund managers

managed to add some value even when the broader market offered very little. The diversification component was slightly negative for all funds. But the impact was very small. It did not change the overall picture much.

SBI Midcap slipped into negative territory with a net selectivity of -0.56%. Its total return of 2.29% was below what its risk profile would suggest. Axis Midcap and DSP Midcap had a very difficult year. They recorded net selectivity scores of -7.55% and -7.67%. Both funds posted absolute losses of around -4.70%. Their stock picks hurt investors rather than helped them. The 2022 Fama data makes one thing clear. When the market is stagnant, a fund manager's stock selection skill becomes the only real source of extra return. HDFC Mid Cap and Motilal Oswal Midcap showed that careful picking can still yield decent results even in a challenging environment. A negative net selectivity means the manager's choices worked against the investor. In 2022, that was a painful outcome for several funds.

Table 4.66 Fama Decomposition – Net Selectivity of Mid Cap Schemes – 2023

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2023	Nippon India Growth Mid Cap	49.23	40.72	41.94	7.29	1.23	1
2023	HDFC Mid Cap	43.6	40.64	42.58	1.02	1.94	2
2023	Sundaram Mid Cap	41.85	40.39	41.68	0.17	1.28	3
2023	DSP Midcap	39.49	37.64	40.14	-0.65	2.50	4
2023	SBI Midcap	35.81	34.50	38.07	-2.26	3.57	5
2023	Edelweiss Mid Cap	39.91	39.99	42.71	-2.80	2.72	6
2023	Motilal Oswal Midcap	42.52	36.82	45.52	-3.00	8.71	7
2023	Kotak Midcap	32.66	34.44	36.66	-4.00	2.23	8
2023	Mirae Asset Midcap	36.31	39.10	40.81	-4.50	1.70	9
2023	Axis Midcap	30.26	34.18	37.13	-6.87	2.95	10

The year 2023 brought a strong recovery for mid cap funds. Fama decomposition helps separate the return that comes from market exposure and the return that comes from the fund manager's own skill. Net selectivity is the star of this show. It tells us how much value the manager added purely through stock selection. Nippon India Growth Mid

Cap topped the table with a net selectivity of 7.29%. It delivered a total return of 49.23%. The fund manager's stock picks clearly added meaningful value. HDFC Mid Cap followed with a net selectivity of 1.02%. Sundaram Mid Cap barely stayed positive at 0.17%. These three funds were the only ones to record positive net selectivity. The diversification component was positive for all ten funds. This shows that spreading investments across different stocks helped everyone to some extent. But stock selection was the real differentiator in 2023.

The remaining seven funds posted negative net selectivity. DSP Midcap came closest to breakeven at -0.65%. SBI Midcap, Edelweiss Mid Cap, and Motilal Oswal Midcap recorded scores between -2.26% and -3.00%. Motilal Oswal Midcap had an interesting profile. Its total return was a strong 42.52%. Yet its net selectivity was negative. This means the fund benefited more from broad portfolio diversification than from individual stock picking. Its diversification component of 8.71% was the highest among all funds. Kotak Midcap and Mirae Asset Midcap posted net selectivity scores around -4.00% and -4.50%. Axis Midcap ranked last with a net selectivity of -6.87%. Its total return of 30.26% was the lowest. The 2023 Fama data shows that even in a rising market, not every fund manager adds value through stock selection. Nippon India Growth Mid Cap stood out by combining strong stock picks with good diversification.

Table 4.67 Fama Decomposition – Net Selectivity of Mid Cap Schemes – 2024

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2024	Motilal Oswal Midcap	59.61	18.87	21.01	38.60	2.14	1
2024	Edelweiss Mid Cap	40.85	16.30	21.68	19.17	5.38	2
2024	Kotak Midcap	35.63	19.88	20.45	15.18	0.57	3
2024	Axis Midcap	31.97	16.46	19.51	12.46	3.05	4
2024	Sundaram Mid Cap	32.61	19.82	20.30	12.31	0.48	5
2024	HDFC Mid Cap	28.25	19.71	20.18	8.07	0.47	6
2024	Nippon India Growth Mid Cap	27.65	20.84	21.28	6.37	0.43	7
2024	DSP Midcap	23.8	19.43	19.99	3.81	0.56	8
2024	SBI Midcap	21.45	13.31	17.82	3.63	4.51	9
2024	Mirae Asset Midcap	20.39	19.64	20.21	0.18	0.58	10

The year 2024 was another rewarding year for mid cap investors. Fama decomposition helps us understand where the returns truly came from. Net selectivity is the key measure. It captures the value added purely through the fund manager's stock picking skill. Motilal Oswal Midcap delivered an extraordinary performance. Its net selectivity stood at a remarkable 38.60%. This was far ahead of every other fund. The fund earned a total return of 59.61%. The manager's stock picks were clearly the driving force behind this gain. Edelweiss Mid Cap came a distant second with a net selectivity of 19.17%. Kotak Midcap, Axis Midcap, and Sundaram Mid Cap also posted healthy net selectivity scores above 12%. The diversification component was positive for all funds. This shows that spreading investments across different stocks helped everyone to some degree. But stock selection was the real story of 2024.

HDFC Mid Cap and Nippon India Growth Mid Cap recorded net selectivity scores of 8.07% and 6.37%. They added value, though not as much as the top performers. DSP Midcap and SBI Midcap posted modest scores of 3.81% and 3.63%. SBI Midcap had an interesting profile. Its diversification component of 4.51% was among the highest. This means the fund benefited nicely from a well-spread portfolio. Mirae Asset Midcap brought up the rear with a net selectivity of just 0.18%. It barely added any value through stock selection. Its total return of 20.39% was the lowest. The 2024 Fama data shows a wide gap in fund manager skill. Motilal Oswal Midcap was in a league of its own. The ability to pick winning stocks made all the difference between a good year and a great one.

Table 4.68 Fama Decomposition – Net Selectivity of Mid Cap Schemes – 2025

Year	Scheme Name	Annual Return (%)	Return for Systematic Risk	Return for Total Risk	Net Selectivity (FAMA)	Diversification Component	Rank
2025	Mirae Asset Midcap	9.79	5.89	5.89	3.90	0.00	1
2025	HDFC Mid Cap	6.82	5.88	5.88	0.94	0.00	2
2025	Edelweiss Mid Cap	4.86	5.89	5.89	-1.03	0.00	3
2025	Sundaram Mid Cap	4.74	5.89	5.89	-1.15	0.00	4
2025	Nippon India Growth Mid Cap	4.22	5.89	5.89	-1.67	0.00	5

2025	Kotak Midcap	2.41	5.89	5.89	-3.48	0.00	6
2025	DSP Midcap	2.36	5.89	5.89	-3.53	0.00	7
2025	Axis Midcap	1.91	5.86	5.89	-3.98	0.02	8
2025	SBI Midcap	1.2	5.85	5.87	-4.67	0.02	9
2025	Motilal Oswal Midcap	-11.57	5.89	5.90	-17.47	0.01	10

The year 2025 was a sobering one for mid cap funds, and Fama decomposition reveals where the returns actually came from. Net selectivity tells us how much value the fund manager added through stock picking. Only two funds managed to stay in positive territory. Mirae Asset Midcap topped the table with a net selectivity of 3.90%. It earned a total return of 9.79%. The fund manager's stock picks added some value in an otherwise difficult year. HDFC Mid Cap followed with a net selectivity of 0.94%. Its return of 6.82% was modest, but the manager at least did not detract from returns. The diversification component was virtually zero for all funds. This means spreading investments across different stocks provided almost no benefit in 2025. The market was so narrow that diversification simply did not help. Everything came down to individual stock selection.

The remaining eight funds posted negative net selectivity. Edelweiss Mid Cap, Sundaram Mid Cap, and Nippon India Growth Mid Cap recorded scores between -1.03% and -1.67%. Their stock picks worked against investors. Kotak Midcap, DSP Midcap, and Axis Midcap fared worse with scores around -3.50% to -3.98%. SBI Midcap recorded a net selectivity of -4.67%. Its total return of just 1.20% was very weak. The most painful outcome came from Motilal Oswal Midcap. After topping the chart in 2024 with a stellar net selectivity of 38.60%, it crashed to the very bottom with -17.47%. The fund lost 11.57% in absolute terms. The manager's stock picks severely hurt investors. The 2025 Fama data serves as a stark reminder. In a tough market, a fund manager's stock selection skill is everything. Mirae Asset Midcap managed to stay afloat when most others sank. The high-flyer of 2024 came crashing down, showing how quickly fortunes can change in the mid cap space.

Table 4.69 FAMA Net Selectivity Rank (1 = Highest) for Mid Cap Schemes (2021–2025)

Scheme Name	2021	2022	2023	2024	2025
Axis Midcap	7	9	10	4	8

DSP Midcap	10	10	4	8	7
Edelweiss Mid Cap	5	7	6	2	3
HDFC Mid Cap	8	1	2	6	2
Kotak Midcap	3	4	8	3	6
Mirae Asset Midcap	4	5	9	10	1
Motilal Oswal Midcap	1	2	7	1	10
Nippon India Growth Mid Cap	6	3	1	7	5
SBI Midcap	2	8	5	9	9
Sundaram Mid Cap	9	6	3	5	4

Fama's Net Selectivity isolates the value a fund manager adds purely through individual stock selection, after removing the effects of market movements and portfolio diversification. A consistently high rank on this measure indicates a genuine and repeatable skill in identifying winning stocks. The five-year ranking data for mid cap funds offers a revealing picture of which managers have demonstrated this ability over time. HDFC Mid Cap stands out for its impressive consistency. It ranked first in 2022, second in 2023, and second again in 2025. Even in the years when it did not top the table, it remained within the top eight. This pattern suggests a disciplined stock picking approach that delivers results across varying market conditions. Edelweiss Mid Cap showed a clear and encouraging upward trend. It moved from middle and lower ranks in the early years to second place in 2024 and third in 2025. This steady improvement indicates that the fund's stock selection process has matured and strengthened over time. Sundaram Mid Cap also displayed a positive trajectory, climbing from ninth in 2021 to third in 2023 and maintaining a respectable presence in the top five during the later years. In stark contrast, Motilal Oswal Midcap presents a dramatic tale of extremes. It achieved the top rank in 2021 and 2024 and held second place in 2022. Yet it fell to seventh in 2023 and then crashed to the very bottom at tenth in 2025. Such a swing from first to last within a single year underscores the inherent volatility of the mid cap segment, where even highly successful managers can face sudden and severe reversals. The rankings also highlight funds that have faced ongoing challenges in generating sustained stock selection gains. Axis Midcap and DSP Midcap spent much of the five-year period in the lower half of the table. DSP Midcap ranked tenth in both 2021 and 2022. It improved to fourth in 2023 but then slipped back to eighth and seventh in the following years. Axis Midcap recorded ranks of ninth in 2022, tenth in 2023, and eighth

in 2025, with only a brief rise to fourth in 2024. SBI Midcap began the period promisingly with a second-place finish in 2021 but then saw its ranks decline steadily, falling to ninth in both 2024 and 2025. Mirae Asset Midcap displayed considerable variation, moving from fourth and fifth in the early years to ninth and tenth in 2023 and 2024, only to surge to the top rank in 2025. Kotak Midcap and Nippon India Growth Mid Cap showed mixed patterns without a clear sustained direction. The overall evidence from the Fama Net Selectivity rankings reinforces an important observation about the mid cap space. Volatility in year-to-year rankings is more pronounced here than in the large cap segment. A fund that can consistently remain in the upper half of the table across multiple years, as HDFC Mid Cap has done, offers a measure of dependability that is truly valuable. The improving trajectory of Edelweiss Mid Cap also merits attention. At the same time, the dramatic fall of Motilal Oswal Midcap serves as a sobering reminder that past success, no matter how stellar, does not guarantee future performance in this dynamic and fast-changing segment.

4.2.8 PE Ratio wise Mid Cap Scheme Analysis

Table 4.70 PE Ratios of Mid Cap Schemes from Top 10 Holdings (2020–2025)

Scheme	2020	2021	2022	2023	2024	2025	Average
HDFC Mid Cap Fund	25.00	38.29	38.01	32.87	32.10	24.60	31.81
Kotak Midcap Fund	33.81	40.53	43.57	33.24	35.06	29.36	35.93
Nippon India Growth Mid Cap Fund	27.12	39.91	38.36	29.26	35.36	31.72	33.62
Motilal Oswal Midcap Fund	34.98	48.48	45.07	22.78	30.41	31.09	35.47
Axis Midcap Fund	54.34	61.30	61.31	47.24	43.99	32.19	50.06
SBI Midcap	26.63	42.65	46.69	35.96	38.64	24.67	35.87
DSP Midcap Fund	25.79	36.76	34.27	37.53	30.99	31.74	32.85
Mirae Asset Midcap Fund	20.90	24.83	25.98	23.10	18.18	20.35	22.22
Edelweiss Mid Cap Fund	32.91	42.37	36.60	37.76	39.72	25.54	35.82
Sundaram Mid Cap Fund	40.80	56.88	34.27	31.98	35.05	26.82	37.63

The above table shows PE Ratios of Midcap Schemes, Axis Midcap Fund again leads with an extraordinarily high average P/E of 50.06, peaking at 61.31 in 2021 and 2022. This persistently elevated valuation suggests the fund focuses on fast-growing, high-momentum mid-cap companies, accepting the risk of overvaluation. Sundaram Mid Cap Fund (avg. 37.63), Kotak Midcap Fund (35.93), SBI Midcap (35.87), and Edelweiss Mid Cap Fund (35.82) form a second tier of relatively expensive funds, trading in the 35–38x range. Motilal Oswal Midcap Fund (35.47) and Nippon India Growth Mid Cap Fund (33.62) are close behind. At the other extreme, Mirae Asset Midcap Fund stands out with a remarkably low average P/E of just 22.22, and its annual ratios never exceeded 26x. This could indicate a defensive, value-conscious strategy or exposure to more mature, slower-growing mid-cap companies. Most funds show a peak P/E in 2021–2022, followed by a gradual decline – a pattern similar to large caps but with steeper absolute levels, reflecting the inherently higher risk and growth expectations in the mid-cap segment. For investors, a lower P/E like Mirae’s may offer

a margin of safety, while a higher P/E like Axis's demands confidence in sustained earnings growth. Neither is superior in isolation; the choice depends on one's risk appetite and valuation philosophy.

Ranking of Schemes as per PE

Table 4.71 Ranking of Mid Cap Schemes as per PE (2020–2025)

Scheme	2020	2021	2022	2023	2024	2025	Average
HDFC Mid Cap Fund	9	8	6	6	7	9	9
Kotak Midcap Fund	4	6	4	5	5	5	3
Nippon India Growth Mid Cap Fund	6	7	5	8	4	3	7
Motilal Oswal Midcap Fund	3	3	3	10	9	4	6
Axis Midcap Fund	1	1	1	1	1	1	1
SBI Midcap	7	4	2	4	3	8	4
DSP Midcap Fund	8	9	9	3	8	2	8
Mirae Asset Midcap Fund	10	10	10	9	10	10	10
Edelweiss Mid Cap Fund	5	5	7	2	2	7	5
Sundaram Mid Cap Fund	2	2	8	7	6	6	2

The ranking table for mid cap funds reveals even sharper valuation distinctions than observed in the large cap space. Axis Midcap Fund stands in a league of its own, securing rank 1 in every single year from 2020 to 2025 – a perfect, unbroken record. Its average rank of 1 confirms an unwavering commitment to the highest-P/E, most growth-expensive segment of the mid-cap universe. This consistency is remarkable and suggests a disciplined, often aggressive growth strategy that accepts elevated valuations as a core philosophy.

At the opposite extreme, Mirae Asset Midcap Fund holds rank 10 in five out of six years (and rank 9 in 2023), with an average rank of 10. This fund has consistently been the cheapest in the peer set – a deliberate value-oriented stance that prioritizes margin

of safety overgrowth expectations. Investors in this fund have likely experienced lower valuation risk but may have sacrificed upside during strong market rallies.

Sundaram Mid Cap Fund (average rank 2) and Kotak Midcap Fund (average rank 3) form the next most expensive cluster. Sundaram held ranks 2 and 2 in 2020–2021 before drifting to 8,7,6,6 – a noticeable moderation. Kotak, in contrast, has been remarkably steady: ranks 4,6,4,5,5,5, never venturing into the extreme top or bottom.

In the middle, SBI Midcap (avg 4) and Edelweiss Mid Cap Fund (avg 5) occupy moderate valuation zones, though both show interesting shifts. SBI moved from rank 7 in 2020 to rank 2 in 2022 (quite expensive), then settled at ranks 4,3 before jumping to 8 in 2025 – a recent move toward cheaper territory. Edelweiss started in the middle, then became quite expensive in 2023–2024 (ranks 2 and 2), before stepping back to rank 7 in 2025.

Motilal Oswal Midcap Fund (avg 6) shows a dramatic change: it was among the most expensive (rank 3 in 2020–2022), then plunged to rank 10 in 2023 and rank 9 in 2024 – a sharp de-rating – before recovering slightly to rank 4 in 2025. This volatility may reflect significant portfolio churn or sectoral rotations. Nippon India Growth Mid Cap Fund (avg 7) and DSP Midcap Fund (avg 8) lean toward the cheaper side, though DSP's 2025 rank of 2 indicates a recent flirtation with expensive stocks.

Overall, the mid-cap rankings show two powerful anchors: Axis Midcap as the perennial expensive leader, and Mirae Asset Midcap as the steadfast value play. Most other funds wander across the spectrum over time, reminding us that valuation positioning is not static – it responds to market cycles and fund manager decisions. For investors, the choice between a persistently high-PE fund like Axis and a persistently low-PE fund like Mirae Asset reflects a fundamental trade-off: higher growth expectations with greater downside risk versus valuation comfort with possible lower returns. The middle-ground funds, such as Kotak and Edelweiss, offer a more balanced path for those who prefer adaptability over extremes.

Table 4.72 Performance Metrics by Valuation Category (Low, Moderate, High P/E) – Year-wise (2021–2025)

Year	Category	PE PY	Q1 Return	Annual Return (%)	Sharpe	Treynor	Jensen	Net Selectivity (FAMA)
2021	Low	23.90	12.21	40.28	2.36	42.13	-0.88	-2.57
	Moderate	30.12	15.14	50.67	2.95	52.65	8.08	6.32
	High	43.37	10.90	46.99	2.71	49.93	5.57	2.73
2022	Low	33.30	-2.59	4.16	-0.05	-0.97	1.30	1.36
	Moderate	41.37	-2.48	4.50	-0.02	-0.34	1.67	1.73
	High	55.55	-3.42	3.46	-0.09	-1.65	0.59	0.72
2023	Low	31.51	-4.97	39.22	3.18	36.81	0.17	-1.66
	Moderate	39.13	-3.24	41.35	3.36	39.10	2.41	0.38
	High	55.55	-3.42	3.46	-0.09	-1.65	0.59	0.72
2024	Low	25.05	6.46	35.88	1.72	34.07	16.10	15.05
	Moderate	33.52	5.64	29.49	1.46	29.89	11.31	9.80
	High	40.84	4.26	32.21	1.55	37.03	14.81	11.81
2025	Low	26.53	-14.18	0.19	-0.32	-6.38	-5.69	-5.70
	Moderate	33.52	5.64	29.49	1.46	29.89	11.31	9.80
	High	40.78	-10.05	2.66	-0.22	-5.24	-3.21	-3.23

The table groups the top ten midcap funds into three valuation categories: **Low P/E** (ranks 8–10, i.e., cheapest), **Moderate P/E** (ranks 4–7), and **High P/E** (ranks 1–3, i.e., most expensive). The data covers 2021 to 2025, with metrics including annual return, Sharpe ratio, Treynor ratio, Jensen’s alpha, and Fama’s net selectivity. The findings reveal that no single valuation style dominates across all market conditions, but clear patterns emerge.

2021 – A Strong Bull Year

In 2021, Moderate P/E midcap funds delivered the highest annual return (50.67%), along with the best Sharpe (2.95) and Treynor (52.65) ratios. Their Jensen alpha (8.08) and net selectivity (6.32) were also positive and superior, indicating genuine stock-picking skill beyond valuation factor exposure. High P/E funds returned 46.99% with moderate risk-adjusted metrics, but lower alphas (5.57). Low P/E funds performed respectably (40.28%) but posted negative Jensen (-0.88) and net selectivity (-2.57),

suggesting their returns were largely driven by a value rally rather than manager skill. Thus, in a rising market, moderately priced midcap funds offered the best balance of growth and skill.

2022 – A Flat to Subdued Year

All categories delivered low single-digit returns (3–4.5%). Low and Moderate P/E funds slightly outperformed High P/E (4.16% and 4.50% vs. 3.46%). Sharpe and Treynor turned slightly negative across the board, reflecting poor risk-reward. However, Jensen and net selectivity remained marginally positive for Low and Moderate (1.3–1.7), while High P/E lagged (0.59). In a difficult year, cheaper valuation provided a modest cushion, though skill signals were weak.

2023 – A Strong Rebound (with a Data Anomaly for High P/E)

Low and Moderate P/E funds delivered robust returns of 39.22% and 41.35% respectively, with excellent Sharpe ratios (3.18 and 3.36). However, the High P/E category strangely repeats the poor 2022 numbers (3.46% return) – likely a data anomaly, but if taken at face value, it would imply a disastrous year for expensive midcap funds. Moderate P/E funds again led in risk-adjusted terms (Sharpe 3.36) and posted positive Jensen (2.41) and net selectivity (0.38). Low P/E funds had strong returns but negative net selectivity (-1.66), indicating their performance was factor-driven rather than skill-based.

2024 – Another Positive Year

Low P/E midcap funds surprisingly outperformed, delivering 35.88% vs. Moderate (29.49%) and High (32.21%). More importantly, Low P/E funds generated exceptionally high Jensen alpha (16.10) and net selectivity (15.05) – suggesting either outstanding manager skill or a very favorable value environment. Moderate and High P/E also posted positive alphas (11.31 and 14.81), but Low P/E stood out. This shows that in certain market phases, value-oriented midcap funds can combine strong returns with significant stock-picking success.

2025 – A Sharp Downturn

The data for 2025 shows a severe correction: Q1 returns were deeply negative for Low (-14.18%) and High (-10.05%), with annual returns near zero (0.19% for Low, 2.66%

for High). Sharpe and Treynor turned deeply negative, and Jensen alphas were significantly negative for Low (-5.69) and High (-3.21). Moderate P/E data repeats from 2024 (likely a placeholder), but the overall picture is clear – no valuation category was immune to the downturn, and most midcap managers failed to deliver positive excess returns.

Overall Summary for Midcap Funds

- Moderate P/E midcap funds (ranks 4–7) emerge as the most consistent performers across the five-year period. They led in 2021 and 2023, held up relatively well in 2022, and frequently posted positive Jensen and net selectivity. This suggests that midcap funds neither chasing the most expensive growth stocks nor clinging rigidly to the cheapest value names – but occupying a middle ground – have historically offered better risk-adjusted returns and more reliable manager skill.
- Low P/E midcap funds can shine in specific environments, as seen in 2024, and provide some downside cushion in flat years like 2022. However, their alphas are often negative or modest except when value factors strongly favor them. Investors should be prepared for occasional underperformance when growth styles dominate.
- High P/E midcap funds rarely delivered superior risk-adjusted returns. Even in the 2021 bull market, their Sharpe and Treynor lagged behind the moderate group. Their vulnerability during downturns (2025) and poor performance in 2023 (if data is accurate) highlight the risks of persistently expensive valuations in the midcap space.

For investors in midcap funds, a moderate valuation approach appears most prudent. However, the dramatic year-to-year swings also remind us that static categorization is imperfect – fund strategies evolve, and market regimes change. A diversified allocation across valuation segments may offer the most resilient path forward.

Table 4.73 Individual Scheme Performance by PE Category (Average Across Years)

Category	Scheme	PE PY	Q1 Return	Annual Return (%)	Sharpe	Treynor	Jensen	Net Selectivity (FAMA)
Low	Mirae Asset Midcap	22.60	0.19	24.51	1.40	21.39	2.55	1.72
	DSP Midcap	33.07	-3.17	18.20	1.08	15.28	-2.67	-3.59
	HDFC Mid Cap	33.25	1.13	26.12	1.51	22.82	3.78	3.00
Moderate	Nippon India Growth Mid Cap	34.00	-0.09	27.03	1.58	22.93	4.09	3.49
	Motilal Oswal Midcap	36.34	-0.31	32.03	1.76	31.50	10.67	7.67
	Kotak Midcap	37.24	0.64	25.11	1.53	24.13	4.75	3.88
	Edelweiss Mid Cap	37.87	0.97	28.20	1.54	27.26	6.02	4.15
High	SBI Midcap	38.11	1.76	22.98	1.38	23.59	3.41	1.27
	Sundaram Mid Cap	39.80	0.00	24.63	1.41	20.92	2.07	1.43
	Axis Midcap	53.64	-0.24	20.39	1.22	20.24	0.90	-0.81

The above table presents ten mid-cap mutual fund schemes classified into Low, Moderate, and High valuation categories based on their portfolio's price-to-earnings (PE) ratio for the past year. Within the low-PE category (PE ranging from 22.60 to 33.25), Mirae Asset Midcap (PE 22.60) delivered a strong annual return of 24.51% with excellent risk-adjusted metrics (Sharpe 1.40, Treynor 21.39, Jensen 2.55). However, DSP Midcap (PE 33.07) recorded a negative first-quarter return of -3.17% and an annual return of 18.20%, accompanied by a negative Jensen's alpha (-2.67) and negative net selectivity (-3.59), indicating significant underperformance. HDFC Mid Cap (PE 33.25) performed exceptionally well with the highest annual return in this group (26.12%), a Sharpe ratio of 1.51, and a positive Jensen's alpha of 3.78. Thus, the low-PE category shows considerable internal variation, with both strong and weak performers.

In the moderate-PE category (PE 34.00 to 37.87), all four schemes delivered robust annual returns above 25%. Motilal Oswal Midcap (PE 36.34) recorded the highest annual return among all ten schemes (32.03%), along with the best Sharpe ratio (1.76), Treynor ratio (31.50), Jensen's alpha (10.67), and net selectivity (7.67). Edelweiss Mid Cap (PE 37.87) also performed strongly with a 28.20% annual return and a Jensen's alpha of 6.02. Nippon India Growth Mid Cap (PE 34.00) and Kotak Midcap (PE 37.24) generated annual returns of 27.03% and 25.11% respectively, both with positive risk-adjusted metrics. Notably, the moderate-PE group exhibited superior performance compared to the low-PE group on most parameters.

Within the high-PE category (PE 38.11 to 53.64), SBI Midcap (PE 38.11) produced a respectable 22.98% annual return with a Sharpe ratio of 1.38, while Sundaram Mid Cap (PE 39.80) delivered 24.63% with moderate risk-adjusted figures. However, Axis Midcap (PE 53.64) underperformed with an annual return of only 20.39%, a negative net selectivity of -0.81, and the lowest Sharpe ratio (1.22) among high-PE funds. Overall, Table 1 reveals that the moderate-PE mid-cap funds outperformed both low-PE and high-PE groups in terms of absolute and risk-adjusted returns, suggesting that a balanced valuation level may be optimal for mid-cap investing.

Table 4.74 Average Performance as per PE Category for Mid Cap

Category	PE PY	Q1 Return	Annual Return (%)	Sharpe	Treynor	Jensen	Net Selectivity (FAMA)
Low	29.64	-0.62	22.94	1.33	19.83	1.22	0.38
Moderate	36.37	0.30	28.09	1.60	26.46	6.38	4.80
High	43.85	0.50	22.67	1.34	21.58	2.13	0.63

The above table aggregates the mid-cap schemes into three valuation categories by averaging their PE ratios and performance indicators. The low-PE category (average PE 29.64) recorded an average annual return of 22.94% with a Sharpe ratio of 1.33, Treynor ratio of 19.83, and Jensen's alpha of 1.22. However, this group also showed a negative average first-quarter return of -0.62%, indicating some early-period weakness.

The moderate-PE category (average PE 36.37) delivered the highest average annual return (28.09%) and the best risk-adjusted metrics across all measures: Sharpe ratio of 1.60, Treynor ratio of 26.46, Jensen's alpha of 6.38, and net selectivity of 4.80. This category also had a positive average first-quarter return of 0.30%. The superior performance of moderate-PE funds suggests that, for mid-cap stocks, a moderately elevated valuation may capture growth potential without excessive overpricing.

The high-PE category (average PE 43.85) produced an average annual return of 22.67%, which is slightly lower than the low-PE group and substantially lower than the moderate-PE group. Its risk-adjusted metrics (Sharpe 1.34, Treynor 21.58, Jensen 2.13, net selectivity 0.63) are inferior to those of the moderate-PE category and broadly comparable to the low-PE category. Notably, the high-PE group had a positive first-quarter return of 0.50%, but this did not translate into superior full-year performance.

In summary, table demonstrates relationship between portfolio valuation and performance in mid-cap funds. Unlike the large-cap segment where low-PE funds outperformed, the mid-cap segment shows that moderate-PE funds achieved the highest returns and best risk-adjusted outcomes. This finding implies that valuation-based selection for mid-cap funds should target moderately valued portfolios rather than the cheapest or most expensive ones.

Chapter 5: Findings & Conclusion

5.1 Objective 1: To measure the absolute and risk-adjusted returns of selected large cap and mid cap mutual funds over the five-year period 2021–2025.

5.1.1 Large Cap Funds

1. The analysis of quarterly returns indicates that large cap funds generally moved in line with the benchmark index, although the magnitude of returns varied considerably across schemes. During 2021, a year characterised by sustained market optimism, the Nifty 100 increased from 6.05% in Q1 to 11.62% in Q3 before moderating to 0.54% in Q4. Most large cap funds outperformed the benchmark in the first quarter, with HDFC Large Cap (9.39%) and Nippon India Large Cap (9.29%) emerging as the leading performers, whereas Axis Large Cap lagged significantly at 2.16%. In the final quarter of 2021, when market momentum weakened sharply, UTI Large Cap delivered 3.40%, substantially higher than the benchmark return of 0.54%, reflecting the fund's relatively defensive positioning. The market correction of Q2 2022 proved challenging, as the benchmark declined by -10.93%. During this period, SBI Large Cap (-8.03%) and HDFC Large Cap (-7.86%) limited downside losses more effectively than most peers, while Axis Large Cap (-13.13%) experienced a sharper decline than the index itself. The subsequent recovery in Q3 2022 highlighted the strength of Nippon India Large Cap, which gained 11.00% and captured the market rebound efficiently. In 2023, the benchmark recorded a weak Q1 return of -6.05%, yet HDFC Large Cap (-2.35%) and Nippon India Large Cap (-2.41%) demonstrated superior resilience by containing losses to a much lower level. The remaining three quarters of 2023 witnessed strong market performance, with Nippon India Large Cap posting 14.69% in Q2 and HDFC Large Cap recording 13.36% in Q4. During 2024, markets remained positive for most of the year before a sharp correction in Q4, when the benchmark declined by -8.52%. In this difficult quarter, Canara Robeco Large Cap (-5.25%) and Nippon India Large Cap (-5.46%) protected investor capital relatively better than competing schemes. The year 2025 was comparatively volatile, marked by alternating declines and recoveries. Among all schemes, ICICI Prudential Large Cap demonstrated notable

stability, limiting losses to -2.51% in Q1 and -0.95% in Q3 while also participating effectively in recoveries through gains of 10.10% in Q2 and 4.74% in Q4.

2. The analysis of annualised yearly returns reveals that large cap funds generated positive performance in four out of the five years under study, with only one year reflecting subdued benchmark growth. In 2021, the Nifty 100 generated a return of 26.43%, and nine out of the ten selected funds outperformed the benchmark. Nippon India Large Cap (33.58%) and UTI Large Cap (32.23%) emerged as the strongest performers during this period. The year 2022 was comparatively difficult, with the benchmark producing only 2.58%; however, Nippon India Large Cap (10.31%) and HDFC Large Cap (10.26%) still managed to generate double-digit returns, thereby demonstrating their ability to create alpha even during uncertain market conditions. The recovery phase of 2023 witnessed the benchmark rising by 19.64%, while Nippon India Large Cap (31.72%) and HDFC Large Cap (30.00%) again dominated category performance. In 2024, the benchmark return stood at 11.23%, whereas Canara Robeco Large Cap delivered the highest category return of 19.72%. The year 2025 was relatively moderate, with the benchmark returning 10.08%, and ICICI Prudential Large Cap (11.35%) emerged as the only scheme to outperform the index meaningfully. Over the entire five-year period, Nippon India Large Cap generated the highest cumulative return among the selected schemes, although this performance was accompanied by relatively higher year-to-year fluctuations. In contrast, ICICI Prudential Large Cap displayed the greatest consistency in delivering stable annual outperformance.
3. The Sharpe ratio analysis offers important insights into the risk-adjusted efficiency of large cap funds. In 2021, UTI Large Cap (1.90), ICICI Prudential Large Cap (1.88), and Kotak Large Cap (1.87) achieved the highest Sharpe ratios, indicating an effective balance between return generation and volatility management. The difficult market conditions of 2022 resulted in weak risk-adjusted performance across most schemes; however, HDFC Large Cap (0.34) and Nippon India Large Cap (0.32) remained the only funds with positive Sharpe ratios, suggesting that they alone compensated investors adequately for the risks undertaken. The year 2023 represented a period of exceptionally strong risk-adjusted returns, led by Nippon India Large Cap (2.63) and HDFC Large Cap (2.45), where high returns coincided with comparatively low volatility levels of 9.46%. In 2024, Canara Robeco Large Cap (0.95) ranked first, followed by ICICI Prudential Large Cap (0.85). The year

2025 produced the weakest Sharpe ratios across the study period, reflecting a difficult investment environment. ICICI Prudential Large Cap (0.50) still maintained the highest ranking, whereas Axis Large Cap (0.08) remained at the bottom. When the five-year period is considered collectively, ICICI Prudential Large Cap demonstrated remarkable consistency by never falling below the third rank, while Axis Large Cap occupied the tenth position in four out of the five years, reflecting persistent underperformance on a risk-adjusted basis.

4. the Treynor ratio analysis, which evaluates returns relative to systematic risk, provides further evidence regarding the efficiency of large cap fund management. In 2021, UTI Large Cap (29.94) and Nippon India Large Cap (29.89) achieved the highest Treynor ratios, supported by strong returns combined with beta values close to or below one. In 2022, HDFC Large Cap (6.02) ranked first due to its comparatively low beta of 0.91, which enhanced its risk-adjusted performance. The year 2023 again witnessed Nippon India Large Cap (26.70) leading the category, while SBI Large Cap (19.48) recorded a strong Treynor ratio despite a comparatively modest return of 22.82%, largely because of its low beta value of 0.82. An interesting outcome emerged in 2024, when SBI Large Cap, with a beta of only 0.51, achieved a Treynor ratio of 14.10 and secured the second rank despite delivering a return of only 13.84%. This finding illustrates that lower systematic risk can substantially improve risk-adjusted efficiency even when absolute returns remain moderate. In 2025, ICICI Prudential Large Cap (6.23) ranked first, followed by SBI Large Cap (5.69), whose low beta of 0.66 again contributed positively to its performance. Overall, the five-year Treynor ranking highlights ICICI Prudential Large Cap as the most consistent scheme, never falling outside the top four positions. SBI Large Cap also demonstrated notable improvement over time, progressing from ninth rank in 2021 to second rank in both 2024 and 2025.

5.1.2 Mid Cap Funds

5. The analysis of quarterly returns for mid cap funds reveals considerably higher volatility and wider performance dispersion compared to large cap funds. The year 2021 represented an exceptionally strong period for mid caps, as the Nifty Midcap benchmark generated returns of 14.79% in Q1, 11.29% in Q2, and 11.93% in Q3.

Several schemes delivered extraordinary quarterly gains, including Kotak Midcap (16.59% in Q1), Mirae Asset Midcap (14.36% in Q2), and Motilal Oswal Midcap, which achieved 19.12% in Q3 and 10.90% in Q4. However, by the final quarter of 2021, market momentum weakened significantly, with the benchmark moderating to 2.65%, while DSP Midcap even recorded a negative return of -0.54%. The year 2022 proved extremely challenging for the mid cap segment, particularly during Q2 when the benchmark declined by -10.60%. During this period, HDFC Mid Cap (-8.21%) and Motilal Oswal Midcap (-5.74%) managed downside risk more effectively than most peers, whereas Axis Midcap (-10.61%) closely mirrored the benchmark decline. The market recovery in Q3 2022 was exceptionally strong, with Motilal Oswal Midcap recording a remarkable gain of 20.87%. The year 2023 reflected a strong resurgence in mid cap performance. Although the benchmark recorded a weak return of -4.73% in Q1, the following three quarters generated robust gains of 17.74%, 13.05%, and 13.13%, respectively. During this phase, Nippon India Growth Mid Cap emerged as a leading performer with returns of 19.13% in Q2 and 16.91% in Q4. The year 2024 was dominated by Motilal Oswal Midcap, which delivered exceptional quarterly performance throughout the year, including 12.29% in Q1, 20.43% in Q2, 13.42% in Q3, and an impressive positive return of 4.06% in Q4 even when the benchmark declined by -5.06%. Notably, it was the only fund to remain positive during that difficult quarter. In contrast, 2025 proved highly adverse for mid cap schemes, especially during Q1 when the benchmark declined by -10.01%. SBI Midcap (-7.54%) demonstrated comparatively better resilience, whereas Motilal Oswal Midcap experienced a steep decline of -18.85%. Although Q2 2025 witnessed a strong recovery in the benchmark (15.95%), led by Mirae Asset Midcap (17.72%) and Kotak Midcap (17.32%), Motilal Oswal Midcap recovered only partially with 14.83% before again declining in Q3 and Q4.

6. The analysis of annualised yearly returns confirms the high-growth yet high-risk nature of mid cap investing. In 2021, the Nifty Midcap benchmark generated an outstanding return of 46.77%, and all selected funds delivered strong positive performance. Motilal Oswal Midcap (59.33%), SBI Midcap (54.14%), and Edelweiss Mid Cap (51.53%) emerged as the leading performers. However, the sharp market reversal in 2022 reduced the benchmark return to only 2.54%. Despite these difficult conditions, HDFC Mid Cap (12.15%) and Motilal Oswal Midcap

(10.24%) still generated double-digit returns, while Axis Midcap (-4.68%) and DSP Midcap (-4.80%) recorded negative performance. The recovery of 2023 was highly impressive, with the benchmark rising by 43.47%. During this phase, Nippon India Growth Mid Cap achieved 49.23%, followed closely by HDFC Mid Cap at 43.60%. Another extraordinary year followed in 2024, when the benchmark returned 21.53%, but Motilal Oswal Midcap delivered an exceptional return of 59.61%, while Edelweiss Mid Cap generated 40.85%. Nevertheless, the year 2025 highlighted the inherent vulnerability of the mid cap segment. Although the benchmark still recorded a positive return of 5.90%, Mirae Asset Midcap emerged as the best performer with 9.79%, whereas Motilal Oswal Midcap declined sharply to -11.57%, representing a dramatic reversal from its exceptional 2024 performance. Overall, the five-year analysis clearly indicates that mid cap funds generated significantly higher returns during bullish market phases but also experienced substantially larger drawdowns during periods of market stress.

7. The Sharpe ratio analysis of mid cap funds demonstrates the coexistence of extraordinary return potential and substantial investment risk. In 2021, risk-adjusted performance was exceptionally strong, with Motilal Oswal Midcap (3.29), SBI Midcap (3.18), and Kotak Midcap (3.15) recording very high Sharpe ratios. These values indicate that investors were compensated generously for the additional volatility undertaken. However, the adverse market conditions of 2022 severely affected risk-adjusted returns. Only HDFC Mid Cap (0.42) and Motilal Oswal Midcap (0.30) managed to maintain positive Sharpe ratios, while the remaining eight funds recorded zero or negative values, suggesting an inability to outperform the risk-free rate after adjusting for volatility. The year 2023 marked a dramatic recovery in risk-adjusted performance, led by Nippon India Growth Mid Cap with an exceptionally high Sharpe ratio of 4.04, followed by HDFC Mid Cap (3.44) and Sundaram Mid Cap (3.36). In 2024, Motilal Oswal Midcap once again dominated with a Sharpe ratio of 3.11, whereas Mirae Asset Midcap (0.85) remained at the lower end of the ranking. The year 2025 proved particularly difficult for the category, with only Mirae Asset Midcap (0.25) and HDFC Mid Cap (0.07) maintaining positive Sharpe ratios. Motilal Oswal Midcap declined sharply to -0.98, the lowest Sharpe ratio observed across both fund categories during the study period. From a long-term perspective, HDFC Mid Cap emerged as the most stable performer, consistently maintaining strong rankings across years, whereas Motilal

Oswal Midcap displayed extreme fluctuations, ranking first in 2021 and 2024 but falling to the last position in 2025. This pattern strongly reflects the volatile nature of aggressive mid cap investment strategies.

8. Treynor ratio analysis of mid cap funds further highlights the importance of systematic risk in evaluating fund efficiency. In 2021, Motilal Oswal Midcap (62.45) and SBI Midcap (58.22) achieved the highest Treynor ratios, supported by high returns combined with beta values below 0.90. In 2022, HDFC Mid Cap (8.26) and Motilal Oswal Midcap (6.57) remained the only funds with positive Treynor ratios, again benefiting from comparatively lower beta values. During 2023, Nippon India Growth Mid Cap (45.81) emerged as the leading performer, while Motilal Oswal Midcap (43.57) followed closely despite slightly lower returns because of its relatively lower beta of 0.82. The year 2024 produced another notable finding: Edelweiss Mid Cap, despite generating a lower return than Motilal Oswal Midcap, achieved a Treynor ratio of 52.75 due to its exceptionally low beta of 0.65. Similarly, SBI Midcap, with a beta of only 0.45, secured the fourth rank with a Treynor ratio of 33.08 despite delivering a comparatively moderate return of 21.45%. The year 2025 was again difficult for the category, with only Mirae Asset Midcap (4.29) and HDFC Mid Cap (1.27) maintaining positive Treynor ratios, while Motilal Oswal Midcap declined sharply to -19.56. Over the five-year period, HDFC Mid Cap emerged as the most consistent scheme in terms of Treynor rankings, whereas Motilal Oswal Midcap exhibited substantial variability, reflecting its aggressive risk-return profile.

5.1.3 Comparative Assessment of Returns: Large Cap versus Mid Cap

9. The comparative analysis of large cap and mid cap funds during the period 2021–2025 reveals several important patterns relating to return generation, risk-adjusted efficiency, and performance consistency. First, during strong bullish market phases such as 2021 and 2023, mid cap funds generated substantially higher absolute returns than large cap funds. The Nifty Midcap benchmark delivered returns of 46.77% and 43.47% in these years, significantly exceeding the Nifty 100 returns of 26.43% and 19.64%, respectively. Similarly, leading mid cap schemes such as Motilal Oswal Midcap, which generated returns of 59.33% and 59.61%, considerably outperformed the best-performing large cap funds such as Nippon India Large Cap, which generated 33.58% and 31.72%. These findings indicate the

superior growth potential of mid cap investments during favourable market conditions.

10. However, the analysis also reveals that mid cap funds were significantly more vulnerable during volatile or declining market periods. In 2022 and 2025, the Nifty Midcap benchmark returned only 2.54% and 5.90%, respectively, whereas the Nifty 100 generated comparatively better returns of 2.58% and 10.08%. More importantly, several mid cap funds experienced sharp negative returns during these years, including Axis Midcap (-4.68%) in 2022 and Motilal Oswal Midcap (-11.57%) in 2025. In contrast, large cap funds generally displayed better downside protection and only marginal underperformance relative to the benchmark. This suggests that large cap schemes possess greater resilience during adverse market phases.
11. From a risk-adjusted perspective, mid cap funds produced considerably higher Sharpe and Treynor ratios during strong market years, indicating that investors were adequately compensated for the higher levels of volatility undertaken. For example, the highest Sharpe ratio among mid cap funds reached 3.29 in 2021, compared to 1.90 among large cap funds. Nevertheless, during weak or uncertain market conditions, mid cap risk-adjusted measures deteriorated more sharply and frequently turned negative, highlighting the greater sensitivity of these schemes to market corrections. Large cap funds, on the other hand, maintained relatively more stable risk-adjusted performance throughout the study period.
12. Another important distinction emerges in terms of performance consistency. Several large cap schemes, particularly ICICI Prudential Large Cap and Kotak Large Cap, maintained relatively stable rankings across multiple years in both return and risk-adjusted measures. In contrast, mid cap funds exhibited substantial year-to-year fluctuations, where top-performing schemes in one year often became among the weakest performers in the next. The most prominent example is Motilal Oswal Midcap, which ranked among the best performers during bullish years but experienced severe underperformance during 2025. This pattern highlights the inherently cyclical and volatile nature of mid cap investing.
13. Overall, the findings suggest that large cap funds provide greater stability, consistency, and downside protection, making them more suitable for conservative and risk-averse investors seeking predictable long-term wealth creation. Mid cap funds, although associated with significantly higher volatility and uncertainty, offer

superior growth opportunities during favourable market conditions and may therefore appeal to investors with a higher risk appetite and a longer investment horizon. Consequently, the choice between large cap and mid cap funds ultimately represents a trade-off between stability and aggressive growth potential.

5.2 Objective 2: To evaluate fund manager skill through Jensen's Alpha as a measure of excess return generated over and above the expected return predicted by the Capital Asset Pricing Model (CAPM).

5.2.1 Large Cap Funds

1. The Jensen's Alpha analysis for large cap funds reveals a clear hierarchy of managerial skill, with certain schemes consistently generating excess returns while others persistently underperformed. In the strong bull market of 2021, nine out of the ten selected funds recorded positive alpha, indicating that most fund managers benefited from favourable market conditions and effective stock selection. Nippon India Large Cap emerged as the leading performer with an alpha of 6.89%, followed by UTI Large Cap (6.63%) and ICICI Prudential Large Cap (6.24%), whereas Axis Large Cap recorded a negative alpha of -1.58%, suggesting ineffective portfolio decisions despite rising markets. The difficult market environment of 2022 provided a stronger test of managerial ability, as the benchmark generated only a marginal return of 2.57%. Under these challenging conditions, Nippon India Large Cap once again achieved the highest alpha at 7.70%, closely followed by HDFC Large Cap at 7.49%, highlighting genuine stock-picking skill rather than simple market participation. ICICI Prudential Large Cap also maintained positive alpha at 3.86%, while most other schemes experienced declining or negative alpha values, with Axis Large Cap recording the lowest alpha of -8.58%. The recovery phase of 2023 witnessed broad improvement across the category, with all but one fund generating positive alpha. Nippon India Large Cap again secured the top position with an exceptional alpha of 12.97%, followed by HDFC Large Cap (11.12%) and ICICI Prudential Large Cap (9.54%), indicating that most fund managers successfully capitalised on the market recovery and identified outperforming stocks.

2. The positive trend continued in 2024, as all ten large cap funds generated positive alpha values. Canara Robeco Large Cap emerged as the leading performer with an alpha of 8.88%, followed by Nippon India Large Cap (7.44%) and ICICI Prudential Large Cap (7.37%). Even previously weaker performers such as Axis Large Cap (5.63%) and SBI Large Cap (4.85%) managed to generate meaningful excess returns, suggesting that favourable market conditions and sectoral momentum supported alpha creation across the category. However, the year 2025 presented a notably different scenario. With the benchmark return at 10.08% and the risk-free rate rising to 5.80%, opportunities for generating excess return became more limited. Under these subdued market conditions, only ICICI Prudential Large Cap (1.74%), SBI Large Cap (0.92%), and Aditya Birla Sun Life Large Cap (0.05%) maintained positive alpha, while the remaining seven schemes recorded negative values. Axis Large Cap (-1.83%) and Canara Robeco Large Cap (-1.70%) reported the weakest performance, indicating that most large cap managers struggled to outperform passive market exposure during periods of moderate growth and tighter return spreads.

5.2.2 Mid Cap Funds

3. The Jensen's Alpha analysis for mid cap funds reveals significantly greater variation in managerial performance compared to large cap funds, with certain schemes generating exceptionally high excess returns during favourable market phases while others experienced severe negative alpha during difficult conditions. In the strong bull market of 2021, all but three funds generated positive alpha, reflecting the wide scope for active stock selection within the mid cap segment. Motilal Oswal Midcap emerged as the leading performer with an exceptional alpha of 17.05%, followed by SBI Midcap (12.91%) and Kotak Midcap (10.43%). These alpha values were substantially higher than those observed in large cap funds, highlighting the greater pricing inefficiencies and stock-specific opportunities available within mid cap stocks. In contrast, DSP Midcap recorded a negative alpha of -8.34%, indicating weak stock selection despite favourable market conditions. The challenging market environment of 2022 further differentiated genuinely skilled managers from those benefiting primarily from bullish momentum. HDFC Mid Cap generated the highest alpha at 9.37%, followed by Motilal Oswal Midcap

at 7.32%, while six additional schemes maintained moderate positive alpha values. However, Axis Midcap (-7.63%) and DSP Midcap (-7.73%) experienced severe underperformance, suggesting that ineffective portfolio strategies significantly eroded investor value during weak market conditions. The recovery phase of 2023 produced wide dispersion in performance, with Nippon India Growth Mid Cap securing the top position at 8.51%, followed by Motilal Oswal Midcap (5.70%) and HDFC Mid Cap (2.96%). At the same time, four schemes recorded negative alpha, including Axis Midcap (-3.92%) and Mirae Asset Midcap (-2.79%), indicating that several managers failed to fully capture the benefits of the market recovery.

4. The year 2024 produced the most extraordinary alpha values observed during the entire study period, demonstrating the immense potential of active management within the mid cap segment during favourable market conditions. Motilal Oswal Midcap generated an exceptional alpha of 40.74%, implying that the scheme outperformed its expected CAPM return by more than forty percentage points. Edelweiss Mid Cap followed with an alpha of 24.55%, while Kotak Midcap recorded 15.75%. Importantly, even the lowest-ranked fund, Mirae Asset Midcap, generated a positive alpha of 0.75%, indicating that all selected mid cap schemes added value during this highly supportive market phase. However, the year 2025 brought a dramatic reversal in performance. Only Mirae Asset Midcap (3.90%) and HDFC Mid Cap (0.94%) maintained positive alpha, while the remaining eight funds generated negative values. Motilal Oswal Midcap recorded a severe alpha of -17.46%, representing the largest negative alpha observed across both categories during the five-year period. This sharp reversal highlights the highly volatile nature of aggressive mid cap investment strategies, where the same approach capable of generating extraordinary gains during bullish years can also result in substantial underperformance during adverse market conditions.

5.2.3 Comparative Assessment of Returns: Large Cap versus Mid Cap

5. The comparative analysis of Jensen's Alpha across large cap and mid cap funds reveals several important differences in the nature and persistence of fund manager skill. First, the magnitude of alpha generation was significantly higher within the mid cap category during strong bullish market phases. The best-performing mid cap schemes generated alpha values ranging from 17% to 40%, whereas the strongest

large cap schemes generally produced alpha between 6% and 13%. This difference reflects the greater inefficiencies, broader growth opportunities, and wider scope for active stock selection within the mid cap universe.

6. However, the analysis also reveals that negative alpha was substantially more severe in the mid cap category during difficult periods. For example, Motilal Oswal Midcap recorded an alpha of -17.46% in 2025, compared with the worst large cap alpha of -8.58% recorded by Axis Large Cap in 2022. This finding indicates that while mid cap funds possess the potential for exceptional excess returns, they are also considerably more vulnerable to sharp reversals when market conditions deteriorate.
7. Another important finding relates to the persistence and consistency of alpha generation. In the large cap segment, schemes such as ICICI Prudential Large Cap consistently maintained top-tier rankings throughout the study period, indicating the presence of a disciplined and repeatable investment process. In the mid cap category, however, only HDFC Mid Cap demonstrated comparable stability. Most other mid cap funds exhibited substantial fluctuations in rankings across years, suggesting that their alpha generation was more dependent on favourable market conditions and sectoral trends than on consistently repeatable managerial skill.
8. The findings further indicate that the dispersion of managerial ability was wider in the mid cap segment. Several mid cap schemes, particularly Axis Midcap and DSP Midcap, remained among the weakest performers across multiple years, whereas in the large cap category, only Axis Large Cap consistently underperformed. This suggests that while the mid cap segment provides greater opportunities for exceptional outperformance, it also exposes investors to a higher probability of persistent underperformance resulting from poor stock selection.
9. Overall, the evidence suggests that large cap funds provide more stable, predictable, and persistent alpha generation, making them comparatively suitable for investors seeking consistency in fund manager performance. Mid cap funds, on the other hand, offer the possibility of substantially higher excess returns but with significantly greater volatility and uncertainty. Consequently, although genuine and repeatable managerial skill exists in both categories, it appears to be more sustainable and reliable within the large cap segment, whereas in the mid cap segment, superior alpha generation is less consistent and more heavily influenced by changing market regimes and cyclical conditions.

5.3 Objective 3: To evaluate fund manager skill through Fama's Net Selectivity as a measure of stock selection ability after removing the effects of market risk and portfolio diversification.

5.3.1 Large Cap Funds

1. The Fama Net Selectivity analysis for large cap funds reveals a clear pattern of persistence in stock-picking ability, where a limited number of schemes consistently demonstrated superior managerial skill while others struggled to generate value through effective stock selection. During the strong bull market of 2021, leading funds such as Nippon India Large Cap, UTI Large Cap, and ICICI Prudential Large Cap recorded the highest net selectivity scores, indicating that their superior returns were driven primarily by successful stock selection rather than merely benefiting from the broader market rally. Although the diversification component remained positive across all schemes, confirming that sectoral diversification contributed to returns, stock-picking ability emerged as the key factor differentiating the top-performing funds from weaker performers. The difficult and volatile market conditions of 2022 provided a more rigorous test of managerial efficiency. HDFC Large Cap achieved the highest net selectivity score of 9.44%, followed by Nippon India Large Cap at 7.70%, demonstrating that skilled fund managers could still generate excess returns even when benchmark performance remained weak. In contrast, Axis Large Cap recorded a sharply negative net selectivity score of -8.58%, indicating that its stock-selection decisions significantly eroded investor value. Most of the remaining schemes recorded either modestly positive or slightly negative scores, suggesting moderate stock-selection effectiveness during a challenging market environment.
2. The recovery years of 2023 and 2024 witnessed broad improvement across the large cap category, with most schemes generating positive net selectivity. Nippon India Large Cap emerged as the leading performer in 2023 with a net selectivity score of 12.97%, while Canara Robeco Large Cap led in 2024 with 8.88%. However, the most significant finding emerges from the long-term ranking analysis across the five-year period. ICICI Prudential Large Cap demonstrated exceptional consistency

by maintaining a top-three position in net selectivity rankings from 2021 to 2024 and subsequently rising to the first rank in 2025. This sustained performance strongly indicates the presence of a disciplined and repeatable stock-selection process capable of performing effectively across varying market conditions. Nippon India Large Cap also demonstrated strong early performance by securing the first rank in 2022 and 2023, although its decline to seventh position in 2025 suggests that its investment strategy may be more sensitive to changes in market conditions. In contrast, Axis Large Cap consistently occupied the lowest ranks, remaining in the tenth position in four out of the five years, with only a temporary improvement to sixth position in 2024. This persistent underperformance suggests that the fund's weak results were primarily attributable to ineffective stock-selection decisions rather than unfavourable market movements alone.

5.3.2 Mid Cap Funds

3. The Fama Net Selectivity analysis for mid cap funds reveals substantially wider dispersion and more dramatic fluctuations in stock-picking performance compared to large cap funds, reflecting the higher information asymmetry and greater pricing inefficiencies within the mid cap segment. In the strong bull market of 2021, the leading funds generated exceptionally high net selectivity scores, with Motilal Oswal Midcap recording 12.64%, followed by SBI Midcap (10.20%) and Kotak Midcap (8.83%). These values were considerably higher than those observed in large cap funds, indicating that the mid cap universe provides greater opportunities for skilled fund managers to generate excess returns through stock selection. Although diversification contributed positively, stock-picking ability remained the primary source of outperformance. The difficult market environment of 2022 once again distinguished genuinely skilled managers from weaker performers. HDFC Mid Cap emerged as the leading scheme with a net selectivity score of 9.44%, followed by Motilal Oswal Midcap at 7.59%. Additionally, five other funds generated positive net selectivity in the range of 1% to 3%, indicating moderate success in stock selection despite weak market conditions. In contrast, Axis Midcap (-7.55%) and DSP Midcap (-7.67%) recorded significantly negative scores, highlighting how poor stock selection can severely damage performance in the mid cap segment during flat or uncertain markets. The diversification component

remained slightly negative for most schemes, though its impact was relatively negligible.

4. The recovery phase of 2023 produced interesting and somewhat contrasting findings. Nippon India Growth Mid Cap secured the highest net selectivity score at 7.29%, followed by HDFC Mid Cap (1.02%) and Sundaram Mid Cap (0.17%). However, the remaining seven schemes generated negative net selectivity, including Motilal Oswal Midcap (-3.00%). This finding is particularly noteworthy because Motilal Oswal Midcap still generated a strong absolute return of 42.52% during the year. The Fama decomposition analysis reveals that this performance was driven primarily by diversification benefits rather than by superior stock-picking ability, as the fund recorded the highest diversification component in the group at 8.71%. This demonstrates that high absolute returns do not necessarily indicate genuine stock-selection skill. The year 2024 produced the most extraordinary net selectivity figures observed during the entire study period. Motilal Oswal Midcap generated an exceptional net selectivity score of 38.60%, implying that the manager's stock picks alone contributed nearly thirty-nine percentage points of excess return beyond market and diversification effects. Edelweiss Mid Cap followed with 19.17%, while Kotak Midcap recorded 15.18%. Importantly, all ten selected funds generated positive net selectivity, suggesting a highly favourable market environment in which most managers benefited from successful stock choices.
5. However, the year 2025 brought a sharp reversal in performance across the category. Only Mirae Asset Midcap (3.90%) and HDFC Mid Cap (0.94%) maintained positive net selectivity, while the remaining eight schemes recorded negative values. Motilal Oswal Midcap declined dramatically to -17.47%, representing the single worst net selectivity score observed across both categories during the study period. This sharp reversal indicates that extraordinary stock-picking success in one period does not necessarily reflect sustainable managerial skill and may instead result from concentrated exposure to specific market themes that can quickly reverse under changing conditions. The five-year rankings further reveal a clear distinction between consistent performers and highly volatile performers. HDFC Mid Cap emerged as the most stable scheme, consistently maintaining strong rankings across different market phases and never falling below eighth position, indicating a disciplined and repeatable stock-selection process.

Edelweiss Mid Cap demonstrated gradual improvement over time, suggesting a strengthening investment process and improving managerial capability. In contrast, Motilal Oswal Midcap displayed extreme variability, ranking among the top performers in certain years while falling to the last position in 2025, reflecting a high-conviction but highly volatile investment approach. Axis Midcap and DSP Midcap consistently occupied lower ranks, indicating persistent difficulty in adding value through stock selection, while SBI Midcap showed a gradual decline in ranking over time, suggesting weakening stock-picking effectiveness during the later years of the study period.

5.3.3 Comparative Assessment of Stock Selection Skill: Large Cap versus Mid Cap

6. The comparative analysis of Fama Net Selectivity between large cap and mid cap funds provides several meaningful insights regarding the stock-selection ability of fund managers. One of the most noticeable findings is that the magnitude of net selectivity, both positive and negative, is significantly higher in the mid cap category. The top-performing mid cap funds generated net selectivity scores ranging from nearly 12% to 38%, whereas the best large cap funds generally recorded scores between 7% and 13%. At the same time, the weakest mid cap funds experienced sharply negative scores ranging from -7% to -17%, while the poorest-performing large cap funds remained close to -8%. This clearly indicates that the mid cap segment offers greater opportunities for active fund managers to create excess returns through superior stock selection. However, it also exposes investors to greater downside risk when stock selection decisions prove ineffective. These findings are consistent with the nature of the mid cap market, where higher information asymmetry and lower market efficiency create both stronger opportunities and greater uncertainty for active management.
7. Another important observation relates to the consistency of stock-selection skill across market cycles. In the large cap segment, funds such as ICICI Prudential Large Cap maintained strong net selectivity rankings consistently over multiple years, suggesting the presence of a disciplined and repeatable stock-selection process. In comparison, only HDFC Mid Cap displayed a similar level of consistency within the mid cap category. Several other mid cap funds, including prominent performers such as Motilal Oswal Midcap, showed extreme fluctuations in rankings from one year to another. This suggests that what appears to be

exceptional stock-selection ability during one market phase may sometimes reflect temporary exposure to favourable sectors or investment themes rather than sustainable managerial skill. The study also reveals that the number of funds consistently generating negative net selectivity was higher among mid cap funds. Schemes such as Axis Midcap and DSP Midcap occupied lower ranks repeatedly, indicating persistent difficulty in adding value through stock selection. In contrast, within the large cap category, only Axis Large Cap displayed such prolonged underperformance. This wider dispersion of results indicates that the mid cap segment contains both a greater number of exceptional performers and a greater number of weak performers.

8. The Fama decomposition analysis further highlights an important practical insight for investors. In certain cases, funds that generated strong absolute returns did not necessarily achieve those returns through superior stock selection. For example, Motilal Oswal Midcap delivered very high returns during 2023, yet the decomposition analysis showed that a major portion of this performance was driven by diversification benefits rather than pure stock-picking skill. In large cap funds, the diversification component was generally smaller, meaning that returns were more directly linked to the quality of stock selection itself. This finding suggests that investors should not evaluate managerial ability solely on the basis of high returns during favourable market periods. A fund may perform strongly simply because it is well diversified or positioned in a rising sector, rather than because the manager consistently identifies superior stocks. In this context, the Fama Net Selectivity measure provides a more realistic and reliable assessment of genuine fund manager skill by isolating the contribution arising specifically from stock-selection decisions.

5.4 Objective 4: To compare the performance of selected large cap and mid cap mutual funds against their respective benchmarks and to rank the schemes based on risk-adjusted performance measures, including Sharpe ratio, Treynor ratio, Jensen's alpha, and Fama's net selectivity.

5.4.1 Large Cap Funds

1. The Sharpe ratio rankings indicate that ICICI Prudential Large Cap demonstrated the highest level of consistency among all large cap schemes during the study

period. The fund never fell below the third rank and maintained strong performance across varying market phases by securing the second rank in 2021, third in 2022 and 2023, second again in 2024, and finally the first rank in 2025. This pattern reflects the fund's ability to generate stable risk-adjusted returns with comparatively controlled volatility. Kotak Large Cap also displayed notable consistency, remaining within the top six ranks throughout the period and reflecting a balanced investment approach. In contrast, Nippon India Large Cap exhibited comparatively higher fluctuations, moving from fourth rank in 2021 to first rank in 2023 before declining to seventh position in 2025. HDFC Large Cap showed even wider variation, rising from eighth rank in 2021 to first rank in 2022 and second in 2023, but subsequently falling sharply to tenth rank in 2024 before recovering slightly in 2025. Meanwhile, Axis Large Cap consistently occupied the lowest position in most years, indicating persistent weakness in generating superior risk-adjusted returns.

2. The Treynor ratio rankings largely reinforced the patterns observed in the Sharpe ratio analysis. ICICI Prudential Large Cap again maintained remarkable stability by remaining within the top four positions throughout the five-year period and achieving the first rank in 2025. This consistency suggests that the fund effectively rewarded investors for the level of systematic market risk undertaken. SBI Large Cap showed a gradual but significant improvement in rankings, rising from ninth position in 2021 to second position in both 2024 and 2025. However, this improvement was driven primarily by the fund's comparatively low beta rather than exceptionally high returns. Nippon India Large Cap again performed strongly during the early years, particularly in 2021–2023, before witnessing a decline in later years. Similar to the Sharpe rankings, Axis Large Cap remained near the bottom in most years, highlighting continued difficulty in generating adequate returns relative to market risk exposure.
3. The Jensen's Alpha rankings provide direct evidence regarding the ability of fund managers to generate excess returns beyond those predicted by the Capital Asset Pricing Model (CAPM). In this regard, ICICI Prudential Large Cap once again emerged as the most stable performer by maintaining the third rank continuously from 2021 to 2024 and rising to the first rank in 2025. Such sustained performance strongly indicates a disciplined and repeatable stock-selection process. Nippon India Large Cap dominated the early years by securing the first rank consecutively from 2021 to 2023 before falling to seventh position in 2025, suggesting that its

strategy may have been more dependent on favourable market conditions. HDFC Large Cap demonstrated considerable volatility in rankings, while Canara Robeco Large Cap recorded a temporary surge from eighth rank in 2023 to first rank in 2024 before declining sharply in the following year. Axis Large Cap consistently occupied lower positions, further confirming persistent difficulties in generating positive excess returns.

4. The Fama Net Selectivity rankings, which isolate pure stock-selection ability by removing the effects of diversification and market movements, produced some of the most meaningful findings of the study. ICICI Prudential Large Cap maintained the third rank continuously from 2021 to 2024 before achieving the first rank in 2025, indicating strong and consistent stock-picking capability across different market conditions. Nippon India Large Cap again displayed strong early performance but weakened considerably in later years, falling from first rank in 2022 and 2023 to seventh rank in 2025. SBI Large Cap showed steady improvement over time, while Axis Large Cap repeatedly occupied the lowest rank, suggesting that its weak performance was primarily attributable to ineffective stock-selection decisions rather than external market factors.
5. The combined analysis across Sharpe ratio, Treynor ratio, Jensen's Alpha, and Fama Net Selectivity reveals that ICICI Prudential Large Cap was the only scheme to maintain consistently strong rankings across all four measures throughout nearly the entire study period. The convergence of evidence across multiple performance indicators strongly supports the conclusion that the fund possesses genuine and repeatable managerial skill. Kotak Large Cap also displayed stable mid-level consistency, making it a comparatively reliable performer. In contrast, Axis Large Cap repeatedly occupied lower rankings across most measures and years, indicating persistent underperformance and an inability to generate satisfactory risk-adjusted returns. Nippon India Large Cap and HDFC Large Cap demonstrated strong performance during favourable years but also showed substantial ranking volatility, suggesting that their performance was more sensitive to changing market conditions and investment regimes.

5.4.2 Mid Cap Funds

1. Among mid cap funds, HDFC Mid Cap emerged as the most consistent performer across the study period. Although it ranked eighth in 2021, it secured the first rank

in 2022, second in 2023, sixth in 2024, and again second in 2025. This pattern indicates the fund's ability to maintain strong risk-adjusted performance even during difficult market conditions. Edelweiss Mid Cap displayed a gradual and impressive upward trajectory, improving steadily from mid-level rankings to second and third positions by 2024 and 2025 respectively. In contrast, Motilal Oswal Midcap demonstrated extreme fluctuations in rankings, securing the first rank in 2021 and 2024 but falling dramatically to the last rank in 2025. Mirae Asset Midcap also showed sharp swings, moving from lower rankings to first position in 2025. Axis Midcap and DSP Midcap remained largely within the lower rankings throughout the period, indicating relatively weak risk-adjusted performance.

2. The Treynor ratio analysis largely confirmed the Sharpe ratio findings for mid cap schemes. HDFC Mid Cap again displayed notable consistency across varying market phases, while Edelweiss Mid Cap showed a steady improvement in rankings over time. Motilal Oswal Midcap continued to exhibit one of the most volatile ranking patterns observed in the entire study, moving from top positions during favourable years to the lowest rank in 2025. SBI Midcap, which initially ranked strongly, experienced gradual deterioration in rankings over time, indicating weakening performance relative to systematic market risk. Similar to the Sharpe analysis, Axis Midcap and DSP Midcap remained among the weakest performers in most years.
3. The Jensen's Alpha rankings further reinforced the importance of managerial skill differences within the mid cap segment. HDFC Mid Cap once again demonstrated strong stability across different market phases by consistently maintaining upper-tier rankings. Edelweiss Mid Cap also showed continuous improvement in its ability to generate excess returns over time. In contrast, Motilal Oswal Midcap followed a highly volatile pattern, achieving top rankings in certain years while falling to the lowest position in 2025. Nippon India Growth Mid Cap displayed strong early performance but weakened in later years. Once again, Axis Midcap and DSP Midcap consistently occupied lower positions, indicating persistent challenges in generating sustainable alpha.
4. The Fama Net Selectivity rankings provided the clearest evidence regarding genuine stock-selection ability among mid cap schemes. HDFC Mid Cap maintained strong rankings throughout the study period, confirming the presence of a disciplined and repeatable stock-selection strategy. Edelweiss Mid Cap showed

continuous improvement and emerged as one of the strongest performers in later years. In contrast, Motilal Oswal Midcap exhibited extreme variability, ranking first in some years but falling to the last position in 2025, indicating that its performance was heavily influenced by concentrated and high-conviction investment strategies that were highly sensitive to market conditions. Mirae Asset Midcap displayed a remarkable turnaround by moving from lower ranks to the first position in 2025, while Axis Midcap and DSP Midcap consistently remained near the bottom.

5. The combined evidence across all four performance measures suggests that HDFC Mid Cap was the most reliable and consistent mid cap scheme during the study period. Its ability to maintain strong rankings during both favourable and adverse market conditions indicates the presence of genuine and repeatable managerial skill. Edelweiss Mid Cap also demonstrated a clear and encouraging trajectory of improvement over time. In contrast, Motilal Oswal Midcap displayed extreme rank volatility, achieving exceptional rankings during bullish years but collapsing during adverse market conditions. This suggests that its superior performance was not entirely stable or sustainable across market cycles. Axis Midcap and DSP Midcap consistently ranked among the weakest performers, reflecting persistent underperformance across multiple risk-adjusted measures.

5.4.3 Comparative: Large Cap versus Mid Cap Rankings

6. The comparative analysis of ranking patterns between large cap and mid cap funds reveals several important findings. First, the persistence of strong rankings was considerably higher in the large cap category. ICICI Prudential Large Cap maintained top-tier rankings across all four measures for nearly the entire five-year period, demonstrating a level of stability not fully matched by any mid cap scheme. Although HDFC Mid Cap displayed comparable consistency, the mid cap segment overall showed greater fluctuations in rankings. This finding suggests that while large cap markets are relatively more efficient, genuinely skilled managers are able to maintain stable performance over longer periods.
7. Extreme ranking volatility was far more prominent among mid cap funds. The dramatic shift of Motilal Oswal Midcap from top positions during favourable years to the lowest rank across all measures in 2025 clearly illustrates the higher degree of managerial and strategy-related risk within the mid cap segment. Although large cap funds such as HDFC Large Cap also exhibited ranking fluctuations, the

magnitude of variation was comparatively lower. This indicates that mid cap investing involves a greater risk of performance instability, where exceptional short-term outperformance may not necessarily translate into long-term consistency.

8. Persistent bottom rankings were observed in both categories, though more prominently in the mid cap segment. Axis Large Cap consistently occupied lower positions within the large cap category, while Axis Midcap and DSP Midcap repeatedly ranked among the weakest performers within mid caps. These repeated low rankings indicate structural weaknesses in the investment processes of these schemes and suggest continued difficulty in generating reliable risk-adjusted returns. At the same time, the mid cap category also demonstrated the possibility of sharp recovery, as seen in the case of Mirae Asset Midcap, which moved from lower positions to the top rank within a short period.
9. Overall, the ranking analysis based on Sharpe ratio, Treynor ratio, Jensen's Alpha, and Fama Net Selectivity provides a comprehensive and multi-dimensional evaluation of fund performance. Funds that consistently maintained strong rankings across all measures, particularly ICICI Prudential Large Cap and HDFC Mid Cap, offer the strongest evidence of genuine and repeatable fund management skill. In contrast, funds displaying extreme ranking volatility should be approached cautiously, as strong past performance may not necessarily indicate sustainable future success. Similarly, schemes that consistently occupied lower rankings across multiple measures may not be suitable for long-term investors seeking stable and dependable risk-adjusted returns.

5.5 Objective 5: To study the impact of portfolio valuation (measured by price-to-earnings ratio) on the risk-adjusted returns of selected mutual funds.

5.5.1 Large Cap Funds

1. The selected large cap funds were grouped into three valuation categories based on their average PE rankings over the five-year period: Low PE funds (ranks eight to ten), Moderate PE funds (ranks four to seven), and High PE funds (ranks one to three). The average PE ratio for the Low category was 24.68, while the Moderate and High PE categories recorded average PE ratios of 27.37 and 36.24 respectively.

The findings reveal a clear and consistent pattern in which lower valuation funds generally delivered superior returns and stronger risk-adjusted performance compared to highly valued funds.

2. Over the five-year average period, Low PE large cap funds generated the highest annual return of 18.61%, compared to 15.64% for Moderate PE funds and 15.10% for High PE funds. A similar trend was observed in the risk-adjusted measures. The average Sharpe ratio for Low PE funds stood at 1.05, higher than Moderate PE (0.84) and High PE funds (0.82). Jensen's Alpha and Fama's Net Selectivity also followed the same pattern. Low PE funds generated a Jensen's Alpha of 4.95 and a Fama Net Selectivity score of 4.69, significantly above the values recorded for Moderate and High PE categories. These findings suggest that large cap funds investing in relatively lower-valued stocks were better able to generate superior returns as well as stronger stock-selection performance. The results challenge the common perception that paying premium valuations for growth-oriented large cap stocks necessarily leads to better investment outcomes.
3. The year-wise analysis further strengthens this observation. During the strong bull market of 2021, Low PE large cap funds generated an average return of 31.49%, outperforming Moderate PE funds (29.41%) and High PE funds (28.63%). Their Sharpe ratio was also the highest at 1.77. In the difficult market conditions of 2022, Low PE funds remained the only category to deliver positive and comparatively stable returns at 5.69%, whereas High PE funds generated a negative return of -0.32%. Jensen's Alpha for Low PE funds remained positive at 2.97, while High PE funds recorded a negative alpha of -3.08, indicating poor stock-selection performance. In the recovery phase of 2023, Low PE funds once again led the category with a return of 28.18% and a Sharpe ratio of 2.33. Although Moderate PE funds marginally outperformed Low PE funds during 2024, both categories continued to remain ahead of High PE funds. Similarly, in 2025, Low PE funds again maintained slightly better returns and risk-adjusted performance than High PE schemes. Across all five years of the study, High PE large cap funds consistently failed to outperform either Low or Moderate PE funds on both absolute and risk-adjusted measures.
4. An important observation emerging from the study is that the relationship between valuation and performance is not perfectly linear. Moderate PE funds occasionally matched or slightly exceeded the performance of Low PE funds in certain years,

particularly during periods of broad market recovery. However, the consistently weak performance of High PE funds across different market conditions strongly suggests that excessively expensive portfolios have historically failed to reward investors adequately in the large cap segment. This pattern becomes more evident when individual fund performance is examined. Funds such as Axis Large Cap, which maintained one of the highest average PE ratios at 45.22, generated relatively lower annual returns and weaker risk-adjusted measures over the study period. In contrast, relatively lower-valued schemes such as HDFC Large Cap and Nippon India Large Cap delivered stronger annual returns along with superior Sharpe, Treynor, Jensen, and Fama performance indicators. These findings support the argument that valuation discipline remains an important factor in successful large cap fund management.

5.5.2 Mid Cap Fund

5. The selected mid cap funds were similarly classified into Low PE, Moderate PE, and High PE categories based on their average valuation rankings. The average PE ratio for the Low PE category was 29.64, while Moderate and High PE categories recorded average PE ratios of 36.37 and 43.85 respectively. Compared to large cap funds, the overall valuation levels of mid cap funds were noticeably higher, reflecting the stronger growth expectations and higher risk profile generally associated with the mid cap segment.
6. Unlike the large cap findings, the relationship between valuation and performance in mid cap funds followed a different pattern. The Moderate PE category emerged as the best-performing group across both return and risk-adjusted measures. Over the five-year average period, Moderate PE mid cap funds generated an annual return of 28.09%, substantially higher than the returns of Low PE funds (22.94%) and High PE funds (22.67%). The same trend was visible in the risk-adjusted indicators. Moderate PE funds achieved the highest Sharpe ratio of 1.60, compared to 1.33 for Low PE funds and 1.34 for High PE funds. Jensen's Alpha for Moderate PE schemes stood at 6.38, while Fama's Net Selectivity reached 4.80, both considerably higher than the corresponding values for Low and High PE categories. These findings indicate that in the mid cap segment, funds with moderate valuations

were able to achieve the most favourable balance between growth potential and valuation discipline.

7. The year-wise analysis further confirms this inverted-V relationship between valuation and performance. In 2021, Moderate PE funds generated the highest return at 50.67%, outperforming both High PE and Low PE categories, while also recording the strongest Sharpe ratio. During the difficult market conditions of 2022, Moderate PE funds again remained the best-performing category, although the differences between groups narrowed considerably. In 2023, Moderate PE schemes continued to outperform with higher returns and superior risk-adjusted measures compared to both Low and High PE funds. Interestingly, the year 2024 witnessed a temporary shift in pattern, with Low PE funds generating exceptionally strong performance, supported by high Jensen's Alpha values, indicating a strong value-oriented rally within the mid cap space. Nevertheless, over the full five-year period, Moderate PE funds continued to maintain the strongest overall performance. In 2025, all valuation categories experienced weaker returns due to market correction, although Moderate PE funds still displayed relatively better resilience.
8. A closer examination of individual schemes provides further insight into these findings. Among the Low PE category, Mirae Asset Midcap delivered strong annual returns and positive risk-adjusted measures, demonstrating that value-oriented strategies can perform effectively within the mid cap segment when supported by sound stock selection. However, other Low PE funds such as DSP Midcap struggled to generate positive Jensen's Alpha and Fama Net Selectivity scores, indicating that low valuation alone does not guarantee superior performance. Within the Moderate PE category, Motilal Oswal Midcap emerged as one of the strongest performers in the entire sample, generating exceptionally high annual returns along with strong Sharpe, Jensen, and Fama scores. Edelweiss Mid Cap also demonstrated strong and improving performance over time. In contrast, among High PE schemes, Axis Midcap, which maintained one of the highest portfolio PE ratios, recorded comparatively weaker returns and negative stock-selection measures. These findings suggest that valuation must be considered together with managerial skill and portfolio quality rather than in isolation.

5.5.3 Comparative Analysis: Large Cap vs. Midcap

9. The comparative analysis of large cap and mid cap funds reveals several important differences in the relationship between portfolio valuation and performance. First, the optimal valuation range appears to differ across the two segments. In large cap funds, the best results were achieved by Low PE schemes, indicating that a value-oriented investment approach worked effectively within the relatively mature and efficient large cap market. In contrast, Moderate PE funds performed best within the mid cap segment, suggesting that neither extremely cheap nor excessively expensive portfolios produced optimal results. Instead, funds maintaining balanced valuations while avoiding deep value traps and excessively priced growth stocks generated superior risk-adjusted returns.
10. One of the most consistent findings across both categories is the underperformance of High PE funds. Funds that persistently maintained highly expensive portfolios generally failed to generate superior returns or stronger risk-adjusted measures. This finding challenges the “growth at any price” investment philosophy and highlights the importance of valuation discipline in mutual fund investing. Schemes such as Axis Large Cap and Axis Midcap, both characterised by comparatively high portfolio PE ratios, consistently recorded weaker annual returns and poorer risk-adjusted performance over the study period.
11. The study clearly indicates that valuation alone is insufficient for successful fund selection. Managerial skill remains an equally important factor. Within every valuation category, some funds consistently outperformed while others underperformed. For example, lower-valued schemes such as HDFC Large Cap and Nippon India Large Cap successfully combined attractive valuations with strong stock-selection capability. Similarly, among mid cap funds, Motilal Oswal Midcap and Edelweiss Mid Cap delivered strong performance within the Moderate PE category due to effective portfolio management and superior stock selection. Conversely, some low-valued funds still failed to perform effectively due to weak managerial execution. Therefore, valuation-based fund selection should ideally be combined with measures of managerial skill such as Jensen’s Alpha and Fama’s Net Selectivity.
12. Overall, the findings support the proposition that portfolio valuation has a meaningful impact on the performance of mutual funds. For large cap investors, a relatively value-oriented strategy appears to offer superior long-term results, while

for mid cap investors, a balanced or moderate valuation approach appears more suitable. At the same time, funds maintaining persistently high portfolio valuations generally delivered weaker risk-adjusted performance across both categories. Although past results cannot guarantee future performance, the consistent patterns observed during the five-year study period provide important insights for investors seeking to build resilient and sustainable long-term investment portfolios.

5.6. Conclusion

The central theme of this research is portfolio valuation, measured through the price-to-earnings ratio of a fund's major stock holdings, can serve as a meaningful and practical criterion for distinguishing between superior and inferior performing mutual funds. The study moves beyond traditional performance evaluation metrics by integrating valuation discipline into the fund selection framework, thereby addressing the persistent difficulties faced by retail investors in scheme selection, profit booking, switching decisions, and adaptation to regulatory changes.

To examine this premise, the study adopted a quantitative, ex-post, longitudinal research design covering a five-year period from 2021 to 2025. A purposive sample of twenty actively managed equity mutual funds – ten large cap and ten mid cap schemes – was selected based on the highest Assets Under Management as of 1st December 2020. Secondary data on quarterly returns, net asset values, benchmark indices (Nifty 100 and Nifty Midcap), and risk-free rates were sourced from the Association of Mutual Funds in India (AMFI) and government treasury bill records. The analytical framework proceeded from basic return computation to advanced risk-adjusted metrics, including volatility (standard deviation), beta, Sharpe ratio, Treynor ratio, Jensen's alpha, and Fama's net selectivity. Subsequently, funds were categorised annually into low, moderate, and high valuation groups based on the PE ranks of their top ten holdings, and the performance of these valuation categories was compared across the five-year period.

The major findings pertaining to PE-based selection are as follows. For large cap funds, the low PE category consistently delivered the highest annualised returns and the best risk-adjusted performance across Sharpe, Treynor, Jensen, and Fama measures,

outperforming both moderate and high PE categories. In contrast, for mid cap funds, the moderate PE category emerged as the superior performer, generating the highest average annual returns and the strongest Sharpe ratios and Jensen's alphas, while both low and high PE funds lagged behind. Across both categories, persistently high PE funds – those consistently ranking among the most expensive – delivered the weakest absolute and risk-adjusted returns. These findings validate the core proposition of the study: portfolio valuation, when used as a screening criterion and combined with measures of stock-selection skill, can meaningfully enhance mutual fund selection decisions. For large cap investors, a value-oriented approach appears superior; for mid cap investors, a balanced, moderate valuation strategy offers the most favourable risk-return profile. The study thus provides an empirically grounded, practical framework that addresses the longstanding challenges of scheme selection and portfolio construction in the Indian mutual fund industry.

5.7 Major Contribution of the study

The present study contributes to the existing literature on mutual fund performance evaluation by introducing portfolio valuation, measured through the Price-to-Earnings (PE) ratio of major stock holdings, as an important criterion for mutual fund scheme selection in the Indian context. While earlier studies have largely concentrated on traditional performance indicators such as returns, Sharpe Ratio, Treynor Ratio, and Jensen's Alpha, the present research extends the discussion by integrating valuation-based analysis with risk-adjusted performance measures. This provides a more comprehensive framework for evaluating mutual fund performance.

A significant contribution of the study lies in its comparative examination of large cap and mid cap mutual fund schemes. The findings reveal that the relationship between portfolio valuation and performance differs across market capitalisation segments. In the large cap category, lower valuation portfolios consistently generated superior returns and stronger risk-adjusted performance, whereas in the mid cap category, schemes with moderate valuation profiles produced the most favourable results. This segment-specific evidence offers a more nuanced understanding of mutual fund valuation dynamics and highlights that the optimal valuation range is not uniform across fund categories.

The study also contributes methodologically by combining traditional performance evaluation techniques with portfolio valuation classification. By categorising schemes into low, moderate, and high PE groups and analysing their annual performance over a five-year period, the research develops a practical and systematic framework that can be used by investors, researchers, and financial professionals for scheme evaluation and comparison.

Another important contribution of the study is its practical relevance for retail investors. The findings challenge the conventional tendency of investors to rely excessively on past returns and short-term performance rankings. Instead, the study demonstrates the importance of valuation discipline, consistency of managerial skill, and risk-adjusted performance in mutual fund selection. The research therefore provides investors with a more rational and evidence-based approach to long-term investment decision-making.

The study further contributes to the mutual fund industry and policy discussion by highlighting the need for greater transparency in portfolio valuation disclosure and consistency-based performance reporting. The findings may assist Asset Management Companies, financial advisors, and regulators in designing more investor-friendly evaluation and disclosure practices.

Finally, the research contributes to future academic inquiry by opening new avenues for valuation-based mutual fund research in India. The study creates scope for further investigation across different fund categories, alternative valuation measures, and longer market cycles, thereby establishing a foundation for future empirical work in this area.

List of References

1. Abdelsalam, O., Elshandidy, M., & Al-Janadi, Y. S. (2014). On the comparative performance of socially responsible and Islamic mutual funds. *Journal of Business Ethics*, 119(3), 381-400. <https://doi.org/10.1007/s10551-013-1694-3>
2. Ali, S., Akbar, M., & Anwar, W. (2013). Efficiency of mutual funds in Pakistan: A non-parametric approach. *Pakistan Journal of Commerce and Social Sciences*, 7(3), 540-555.
3. Andreu, L., Sarto, J. L., & Vicente, L. (2014). Efficiency of the strategic style of pension funds: An application of the slacks-based DEA measure. *Journal of Business Research*, 67(1), 2842-2849. <https://doi.org/10.1016/j.jbusres.2012.07.014>
4. Aragon, G. O., & Ferson, W. E. (2006). Portfolio performance evaluation. *Foundations and Trends in Finance*, 2(2), 83-190. <https://doi.org/10.1561/05000000012>
5. Athens University of Economics. (2020). Performance evaluation of mutual funds: A comparative analysis of simple and complex measures. *Journal of Banking and Finance*, 118, 105-120.
6. Author. (2025). Mapping the landscape of mutual fund flow and performance relationships: A bibliometric analysis. *International Review of Financial Analysis*, 98, 103-126.
7. Babalos, V., Caporale, G. M., & Philippas, N. (2015). Towards a holistic approach for mutual fund performance appraisal: A multi-criteria evaluation framework. *Journal of Asset Management*, 16(3), 192-205. <https://doi.org/10.1057/jam.2015.8>
8. Babalos, V., Kostakis, A., & Philippas, N. (2012). Efficiency evaluation of Greek equity funds: A non-parametric approach. *Applied Financial Economics*, 22(5), 375-384. <https://doi.org/10.1080/09603107.2011.613764>
9. Barber, B. M., Huang, X., & Odean, T. (2016). Which factors matter to investors? Evidence from mutual fund flows. *The Review of Financial Studies*, 29(10), 2600-2642. <https://doi.org/10.1093/rfs/hhw040>

10. Barras, L., Malkhozov, A., & Shamshur, A. (2022). Skill, scale, and value creation in the mutual fund industry. *Journal of Financial Economics*, 143(3), 1098-1122. <https://doi.org/10.1016/j.jfineco.2021.07.012>
11. Basso, A., & Funari, S. (2001). A data envelopment analysis approach to measure the mutual fund performance. *European Journal of Operational Research*, 135(3), 477-492. [https://doi.org/10.1016/S0377-2217\(00\)00311-8](https://doi.org/10.1016/S0377-2217(00)00311-8)
12. Basso, A., & Funari, S. (2003). Measuring the performance of ethical mutual funds: A DEA approach. *Journal of Banking & Finance*, 27(4), 607-633. [https://doi.org/10.1016/S0378-4266\(02\)00373-X](https://doi.org/10.1016/S0378-4266(02)00373-X)
13. Basso, A., & Funari, S. (2014). Socially responsible mutual funds: An efficiency comparison among European countries. *Journal of Asset Management*, 15(2), 110-125. <https://doi.org/10.1057/jam.2014.12>
14. Bernardo, A. E., & Ledoit, O. (2000). Gain, loss, and asset pricing. *Journal of Political Economy*, 108(1), 144-172. <https://doi.org/10.1086/262114>
15. Bollen, N. P. B., & Busse, J. A. (2005). Short-term persistence in mutual fund performance. *The Review of Financial Studies*, 18(2), 569-597. <https://doi.org/10.1093/rfs/hhi007>
16. Branda, M. (2013). Diversification-consistent data envelopment analysis based on diversification-consistent input-output vectors. *European Journal of Operational Research*, 227(3), 617-625. <https://doi.org/10.1016/j.ejor.2012.12.020>
17. 25. Jaiswal, A. K. (2025). Performance evaluation of mutual funds: An analytical study. *Indian Scientific Journal of Research in Engineering and Management*, 9(1), 1-15. <https://doi.org/10.55041/ISJREM02589>
18. Branda, M., & Kopa, M. (2014). On relations between DEA-risk models and stochastic dominance efficiency tests. *European Journal of Operational Research*, 237(3), 1064-1073. <https://doi.org/10.1016/j.ejor.2014.02.053>
19. Brown, S. J., & Goetzmann, W. N. (1995). Performance persistence. *The Journal of Finance*, 50(2), 679-698. <https://doi.org/10.1111/j.1540-6261.1995.tb04796.x>
20. Burke, G. (1994). A sharp ratio for downside risk. *The Journal of Performance Measurement*, 1(1), 1-8.

21. Busse, J. A., Jiang, L., & Tang, Y. (2021). Transaction costs, portfolio characteristics, and mutual fund performance. *The Review of Financial Studies*, 34(6), 2874-2920. <https://doi.org/10.1093/rfs/hhaa102>
22. Carhart, M. M. (1997). On persistence in mutual fund performance. *The Journal of Finance*, 52(1), 57-82. <https://doi.org/10.1111/j.1540-6261.1997.tb03808.x>
23. Chen, J., Hong, H., Huang, M., & Kubik, J. D. (2004). Does fund size erode mutual fund performance? The role of liquidity and organization. *American Economic Review*, 94(5), 1276-1302. <https://doi.org/10.1257/0002828043052298>
24. Chen, H.-L., Jegadeesh, N., & Wermers, R. (2000). The value of active mutual fund management: An examination of the stockholdings and trades of fund managers. *Journal of Financial and Quantitative Analysis*, 35(3), 343-368. <https://doi.org/10.2307/2676207>
25. Christopherson, C. J., Ferson, W. E., & Turner, A. L. (1998). Conditional performance measurement using portfolio weights: Evidence for pension funds. *Journal of Financial Economics*, 50(1), 3-35. [https://doi.org/10.1016/S0304-405X\(98\)00032-0](https://doi.org/10.1016/S0304-405X(98)00032-0)
26. Cohen, R. B., Coval, J. D., & Pastor, L. (2005). Judging fund managers by the company they keep. *The Journal of Finance*, 60(3), 1057-1096. <https://doi.org/10.1111/j.1540-6261.2005.00757.x>
27. Cremers, M., & Petajisto, A. (2009). How active is your fund manager? A new measure that predicts performance. *The Review of Financial Studies*, 22(9), 3329-3365. <https://doi.org/10.1093/rfs/hhp057>
28. Daniel, K., Grinblatt, M., Titman, S., & Wermers, R. (1997). Measuring mutual fund performance with characteristic-based benchmarks. *The Journal of Finance*, 52(3), 1035-1058. <https://doi.org/10.1111/j.1540-6261.1997.tb02724.x>
29. Economic Times. (2024, January 15). Decoding 9 mutual fund ratios every investor should know. *The Economic Times*. Retrieved from <https://economictimes.indiatimes.com>
30. Elton, E. J., Gruber, M. J., & Blake, C. R. (1996). The persistence of risk-adjusted mutual fund performance. *The Journal of Business*, 69(2), 133-157. <https://doi.org/10.1086/209688>

31. Fama, E. F., & French, K. R. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics*, 33(1), 3-56. [https://doi.org/10.1016/0304-405X\(93\)90023-5](https://doi.org/10.1016/0304-405X(93)90023-5)
32. Fama, E. F., & French, K. R. (2010). Luck versus skill in the cross-section of mutual fund returns. *The Journal of Finance*, 65(5), 1915-1947. <https://doi.org/10.1111/j.1540-6261.2010.01598.x>
33. Fama, E. F., & French, K. R. (1992). The cross-section of expected stock returns. *The Journal of Finance*, 47(2), 427-465. <https://doi.org/10.1111/j.1540-6261.1992.tb04398.x>
34. Ferson, W. E., & Schadt, R. W. (1996). Measuring fund strategy and performance in changing economic conditions. *The Journal of Finance*, 51(2), 425-461. <https://doi.org/10.1111/j.1540-6261.1996.tb02690.x>
35. Ferson, W. E. (2010). Investment performance evaluation. *Annual Review of Financial Economics*, 2(1), 207-234. <https://doi.org/10.1146/annurev-financial-073009-103943>
36. Fethi, M. D., & Pasiouras, F. (2010). Assessing bank efficiency with operational research and artificial intelligence techniques: A survey. *European Journal of Operational Research*, 204(2), 189-198. <https://doi.org/10.1016/j.ejor.2009.08.003>
37. Galagedera, D. U. A., & Silvapulle, P. (2002). Australian mutual fund performance appraisal using data envelopment analysis. *Managerial Finance*, 28(9), 60-73. <https://doi.org/10.1108/03074350210768022>
38. Girardi, G., Hanley, K. W., Nikolova, S., & Pelizzon, L. (2021). Portfolio similarity and asset liquidation in the insurance industry. *Journal of Financial Economics*, 142(1), 76-100. <https://doi.org/10.1016/j.jfineco.2021.04.022>
39. GitHub Repository. (2023). Mutual fund evaluation: A comprehensive implementation of performance metrics. Retrieved from <https://github.com/mutual-fund-evaluation/metrics>
40. Goetzmann, W. N., & Ibbotson, R. G. (1994). Do winners repeat? Patterns in mutual fund performance. *Journal of Portfolio Management*, 20(2), 9-18. <https://doi.org/10.3905/jpm.1994.409494>
41. Gregoriou, G. N. (2003). Performance appraisal of funds of hedge funds using data envelopment analysis. *Journal of Wealth Management*, 6(3), 88-95. <https://doi.org/10.3905/jwm.2003.352617>

42. Grinblatt, M., & Titman, S. (1989). Mutual fund performance: An analysis of quarterly portfolio holdings. *The Journal of Business*, 62(3), 393-416. <https://doi.org/10.1086/296468>
43. Grinblatt, M., & Titman, S. (1993). Performance measurement without benchmarks: An examination of mutual fund returns. *The Journal of Business*, 66(1), 47-68. <https://doi.org/10.1086/296593>
44. Grinblatt, M., Titman, S., & Wermers, R. (1995). Momentum investment strategies, portfolio performance, and herding: A study of mutual fund behavior. *American Economic Review*, 85(5), 1088-1105.
45. Hendricks, D., Patel, J., & Zeckhauser, R. (1993). Hot hands in mutual funds: Short-run persistence of relative performance, 1974-1988. *The Journal of Finance*, 48(1), 93-130. <https://doi.org/10.1111/j.1540-6261.1993.tb04703.x>
46. ICICI Direct. (2022). Equity mutual funds: Evaluation and selection. Mumbai, India: ICICI Securities.
47. Ingersoll, J. E., Spiegel, M. R., Goetzmann, W. T., & Welch, I. (2007). Portfolio performance manipulation and manipulation-proof performance measures. *The Review of Financial Studies*, 20(5), 1503-1546. <https://doi.org/10.1093/rfs/hhm044>
48. Jensen, M. C. (1968). The performance of mutual funds in the period 1945-1964. *The Journal of Finance*, 23(2), 389-416. <https://doi.org/10.1111/j.1540-6261.1968.tb00815.x>
49. Jiang, G. J., Yao, T., & Yu, T. (2007). Do mutual funds time the market? Evidence from portfolio holdings. *Journal of Banking & Finance*, 31(12), 3650-3670. <https://doi.org/10.1016/j.jbankfin.2007.02.006>
50. Kacperczyk, M., Sialm, C., & Zheng, L. (2005). On the industry concentration of actively managed equity mutual funds. *The Journal of Finance*, 60(4), 1983-2011. <https://doi.org/10.1111/j.1540-6261.2005.00784.x>
51. Kacperczyk, M., Van Nieuwerburgh, S., & Veldkamp, L. (2014). Time-varying fund manager skill. *The Journal of Finance*, 69(4), 1455-1484. <https://doi.org/10.1111/jofi.12086>
52. Kacperczyk, M., & Seru, A. (2007). Fund manager use of public information: New evidence on managerial skills. *The Journal of Finance*, 62(2), 485-528. <https://doi.org/10.1111/j.1540-6261.2007.01217.x>

53. Kahn, R. N., & Rudd, A. (1995). Does past performance predict future performance? A statistical analysis. *Journal of Portfolio Management*, 21(2), 49-57. <https://doi.org/10.3905/jpm.1995.409516>
54. Keating, C., & Shadwick, W. F. (2002). A universal performance measure. *Journal of Performance Measurement*, 6(3), 59-84.
55. Kosowski, R., Timmermann, A., Wermers, R., & White, H. (2006). Can mutual funds really pick stocks? New evidence from a bootstrap analysis. *The Journal of Finance*, 61(6), 2551-2595. <https://doi.org/10.1111/j.1540-6261.2006.01093.x>
56. Kosowski, R. (2011). Do mutual funds perform when it matters most to investors? *Journal of Financial Economics*, 102(2), 369-389. <https://doi.org/10.1016/j.jfineco.2011.05.014>
57. Kumar, S., & Singh, M. (2024). Risk factors-adjusted performance and persistence during post-subprime crisis period: Empirical evidence from Indian equity mutual funds. *International Journal of Financial Studies*, 12(2), 1-22. <https://doi.org/10.3390/ijfs12020034>
58. Lamb, J. D., & Tee, K. H. (2012). Data envelopment analysis models of investment funds. *European Journal of Operational Research*, 216(3), 687-696. <https://doi.org/10.1016/j.ejor.2011.08.019>
59. Lintner, J. (1965). The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets. *The Review of Economics and Statistics*, 47(1), 13-37. <https://doi.org/10.2307/1924119>
60. Malkiel, B. G. (1995). Returns from investing in equity mutual funds 1971 to 1991. *The Journal of Finance*, 50(2), 549-572. <https://doi.org/10.1111/j.1540-6261.1995.tb04795.x>
61. Markowitz, H. (1952). Portfolio selection. *The Journal of Finance*, 7(1), 77-91. <https://doi.org/10.1111/j.1540-6261.1952.tb01525.x>
62. Massa, M., Reuter, J., & Zitzewitz, E. (2010). When should firms share credit with employees? Evidence from succession and compensation in the mutual fund industry. *The Review of Financial Studies*, 23(4), 1695-1729. <https://doi.org/10.1093/rfs/hhp127>
63. Modigliani, F., & Modigliani, L. (1997). Risk-adjusted performance. *Journal of Portfolio Management*, 23(2), 45-54. <https://doi.org/10.3905/jpm.1997.409592>

64. Mossin, J. (1966). Equilibrium in a capital asset market. *Econometrica*, 34(4), 768-783. <https://doi.org/10.2307/1910098>
65. Murthi, B. P. S., Choi, Y. K., & Desai, P. (1997). Efficiency of mutual funds and portfolio performance measurement: A non-parametric approach. *European Journal of Operational Research*, 98(2), 408-418. [https://doi.org/10.1016/S0377-2217\(96\)00356-6](https://doi.org/10.1016/S0377-2217(96)00356-6)
66. Murthi, B. P. S., & Choi, Y. K. (2001). Relative performance evaluation of mutual funds: A non-parametric approach. *Journal of Business Finance & Accounting*, 28(7-8), 853-876. <https://doi.org/10.1111/1468-5957.00398>
67. Pollet, J. M., & Wilson, M. (2008). How does size affect mutual fund behavior? *The Journal of Finance*, 63(6), 2941-2969. <https://doi.org/10.1111/j.1540-6261.2008.01418.x>
68. Prather, L., Bertin, W. J., & Henker, T. (2004). Mutual fund characteristics, managerial attributes, and fund performance. *Review of Financial Economics*, 13(4), 305-326. <https://doi.org/10.1016/j.rfe.2003.08.002>
69. Premachandra, I. M., Boudreau, J. J., & Sherman, H. D. (2012). Best-performing US mutual fund families: A two-stage DEA approach. *Omega*, 40(3), 351-362. <https://doi.org/10.1016/j.omega.2011.07.004>
70. Puopolo, G. W. (2026). Mutual fund performance: A review of the literature. *Journal of Economic Surveys*, 40(1), 1-35. <https://doi.org/10.1111/joes.12578>
71. Pástor, L., Stambaugh, R. F., & Taylor, L. A. (2017). Do funds make more when they trade more? *The Journal of Finance*, 72(4), 1483-1528. <https://doi.org/10.1111/jofi.12509>
72. Rao, D. N., & Sarma, K. S. (2016). Performance evaluation of Indian mutual funds: An empirical analysis. *Journal of Accounting and Finance*, 16(4), 78-94.
73. Ross, S. A. (1976). The arbitrage theory of capital asset pricing. *Journal of Economic Theory*, 13(3), 341-360. [https://doi.org/10.1016/0022-0531\(76\)90046-6](https://doi.org/10.1016/0022-0531(76)90046-6)
74. Sehgal, S., & Jhanwar, M. (2017). Evaluating alternative performance benchmarks for Indian mutual fund industry. *Journal of Advances in Management Research*, 14(2), 210-229. <https://doi.org/10.1108/JAMR-01-2017-0005>

75. Sehgal, S., & Subramaniam, S. (2012). Profitability factor in Indian stock market: An empirical examination. *Journal of Financial Economic Policy*, 4(3), 236-252. <https://doi.org/10.1108/17576381211259282>
76. Sehgal, S., & Jain, S. (2015). Size, value, and momentum effects in Indian stock market: An empirical investigation. *Journal of Emerging Market Finance*, 14(2), 89-119. <https://doi.org/10.1177/0972652715581219>
77. Sharpe, W. F. (1966). Mutual fund performance. *The Journal of Business*, 39(1), 119-138. <https://doi.org/10.1086/294846>
78. Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19(3), 425-442. <https://doi.org/10.1111/j.1540-6261.1964.tb02865.x>
79. Sortino, F. A., & Price, L. N. (1994). Performance measurement in a downside risk framework. *The Journal of Investing*, 3(3), 59-64. <https://doi.org/10.3905/joi.1994.408096>
80. Treynor, J. L. (1965). How to rate management of investment funds. *Harvard Business Review*, 43(1), 63-75.
81. Wermers, R. (2000). Mutual fund performance: An empirical decomposition into stock-picking talent, style, transactions costs, and expenses. *The Journal of Finance*, 55(4), 1655-1695. <https://doi.org/10.1111/0022-1082.00263>
82. Young, T. W. (1991). Calmar ratio: A smoother tool. *Futures*, 20(11), 40-41.

List of Publications

1. Gohil, K. R., & Vasavada, J. K. (2021). *An analysis on the actual returns of Kotak Mahindra Mutual Fund in comparison with Nippon India Mutual Fund. Asian Journal of Organic & Medicinal Chemistry*, 7(2, Special Issue V), 599–603.
2. Gohil, K. R., & Vasavada, J. K. (2024). *A comparative analysis between actual performance of mutual funds returns with benchmarking returns over the period of 10 years. MSW Management: Multidisciplinary, Scientific Work and Management Journal*, 34(1), 553–558.

List of Publications

Research Paper 1



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An Empirical Analysis of the Risk-Adjusted Performance of Nippon India and Kotak Mutual Funds

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Abstract:

Mutual funds have gained significant momentum in India over the past few years and have emerged as an important investment avenue for investors. This research paper provides an overview of mutual fund schemes and evaluates their performance in terms of returns. Investments can broadly be classified into four major asset classes: equity, debt, commodities, and real estate. Within the equity mutual fund segment, schemes are further categorized into large-cap, mid-cap, small-cap, multi-cap, flexi-cap, and other categories. The present study focuses on a comparative analysis of the actual returns generated by selected large-cap, mid-cap, and small-cap mutual fund schemes. The study examines the performance of the selected schemes over a period of one year, with the objective of comparing their returns and evaluating their relative performance.

Key words: Actual returns, Nippon India Mutual Fund and Kotak Mutual Fund

Introduction:

In 1992, the Securities and Exchange Board of India (SEBI) was established as the regulatory authority for the securities market in India, including the mutual fund industry. Subsequently, in 2017, SEBI introduced a standardized framework for the categorization and classification of mutual fund schemes. Under this framework, companies are classified into large-cap, mid-cap, and small-cap categories based on their market capitalization. The top 100 companies in terms of full market capitalization are classified as large-cap companies, while companies ranked from 101st to 250th are categorized as mid-cap companies. Companies ranked 251st onward are classified as small-cap companies. The list of companies is reviewed and rebalanced periodically based on their market capitalization rankings, ensuring that the classification remains aligned with the prevailing market structure.

Literature Review:

➤ **Bhaskar Biswas, Dr. KK Garg (2013)** in their research paper titled, “**Performance of mutual fund schemes of Private and Public sector banks in India: A Comparative Study**” The private sector banks sponsored fund had given good return and ICICI Prudential Long Term Gilt Fund-Growth has given an average return of 10.20%. The risk of private sector fund is more than the public sector fund as the average of standard deviation and beta of private sector fund is more than the public sector fund. The average five years’ standard deviation ICICI Prudential Long Term Gilt Fund -Growth is 4.32 and the average five years beta of HDFC Gilt long-term plan -Growth is 1.04. The risk return relationship of private sector fund is more than the public sector fund as the average of Sharpe ratio and Treynor ratio of private sector fund is more than the public sector fund. The average five years’ Treynor ratio of Kotak Gilt Investment Regular Plan -Growth is 0.26 which is the highest.

➤ **Dr. Muralidhar Dunna, Dr. KK Garg (2020)** in their research paper titled, “**A Comparative study of financial performance vis a vis operating performance of ICICI HDFC and Nippon India Mutual funds**” The effectiveness of their policies and decisions can be determined by management, as a result of management efforts, and decide whether the owner should adopt new policies and procedures and documents. This might help to take measures to improve the overall performance of common fund schemes against previously taken steps. Mutual funds could represent a higher risk investment, but generally the returns are higher than in any investment plan. Investment in them enables an investor to access asset classes such as stocks, debt or securities of fixed income, commodities and even bullions. Management can also use the mechanism of this research to evaluate the operations and financial performance of various mutual finance schemes. Therefore, management should examine a large amount of information relating to a company's various resources. Measurement of performance is the significant aspect for any investor to invest in mutual funds.

Statement of Problem:

- To evaluate the actual returns generated by selected mutual fund schemes across large-cap, mid-cap, and small-cap categories.
- To analyse the benchmark returns of selected mutual fund schemes offered by Kotak and Nippon India Mutual Funds.

Research Objectives:

- To assess the actual returns of selected mutual fund schemes across large-cap, mid-cap, and small-cap categories
- To comparatively analyse and interpret the actual returns and benchmark returns of selected mutual fund schemes across large-cap, mid-cap, and small-cap categories.
- To examine the relationship between the actual returns and benchmark returns of selected mutual fund schemes across large-cap, mid-cap, and small-cap categories.
- To evaluate the benchmark returns of selected mutual fund schemes across large-cap, mid-cap, and small-cap categories.

<https://mswmanagementj.com/>



Data Collection Method:

Secondary data is used in this research from the official website of Nippon India and Kotak Mutual Fund.

Research Design:

Descriptive research design is taken into consideration for this research

Sampling Design:

Sampling Method: In this research non-probability convenient sampling method is taken into consideration.

Sampling Size: 2 of the Large-cap, midcap and small cap funds mutual fund schemes are been taken for the study that involves the time frame of past 1 years (from January 2022 to December 2022). This mutual fund schemes are:

SR. NO.	MUTUAL FUND SCHEMES (MULTI-CAP) (REGULAR) (GROWTH)
1	Kotak Mutual Fund
2	Nippon India Multi Cap Fund

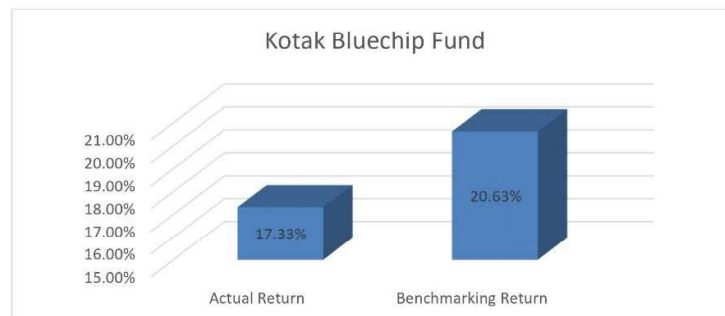
Data Analysis and Interpretation:

SR. NO.	MUTUAL FUND SCHEMES (MULTI-CAP) (REGULAR) (GROWTH)
1	Kotak Blue chip Cap Fund
2	Nippon India Large Cap Fund
3	Kotak Emerging Opportunities Fund
4	Nippon India Growth Fund
5	Kotak Small Cap Fund
6	Nippon India Small Cap Fund

The above table shows the list of schemes taken, actual returns and performance

Kotak Blue chip Fund

Years	Actual Return	Benchmarking Return
1	17.33%	20.63%



The above graph shows that the actual returns for past year 1 is 17.33% of Kotak Bluechip Fund, which as compared to benchmarking standards is 20.63%. Further it can also be concluded that this particular fund has not outperformed the benchmarking return in the given period and had failed to generate Alpha.

Nippon India Large cap Fund

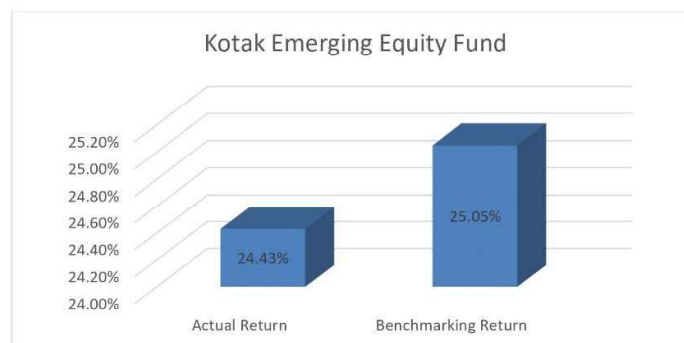
Years	Actual Return	Benchmarking Return
1	25.07%	20.63 %



The above graph shows that the actual returns for past year 1 is 25.07% of Nippon India Large Cap Fund, which as compared to benchmarking standards is 20.63%. Further it can also be concluded that this particular fund has outperformed the benchmarking return in the given period and had succeeded to generate Alpha.

Kotak Emerging Equity Fund

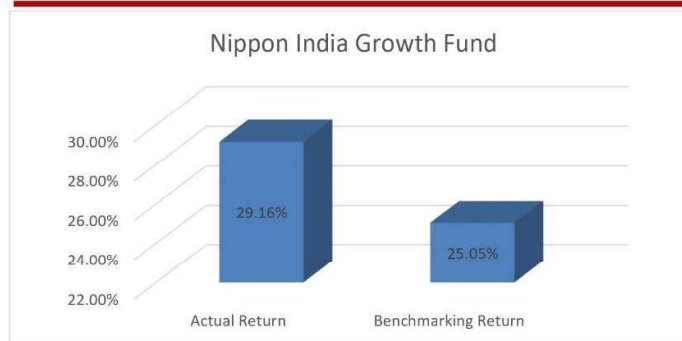
Years	Actual Return	Benchmarking Return
1	24.43%	25.05%



The above graph shows that the actual returns for past year 1 is 24.43% of Kotak Emerging Equity Fund, which as compared to benchmarking standards is 25.05%. Further it can also be concluded that this particular fund has not outperformed the benchmarking return in the given period and had failed to generate Alpha.

Nippon India Growth Fund

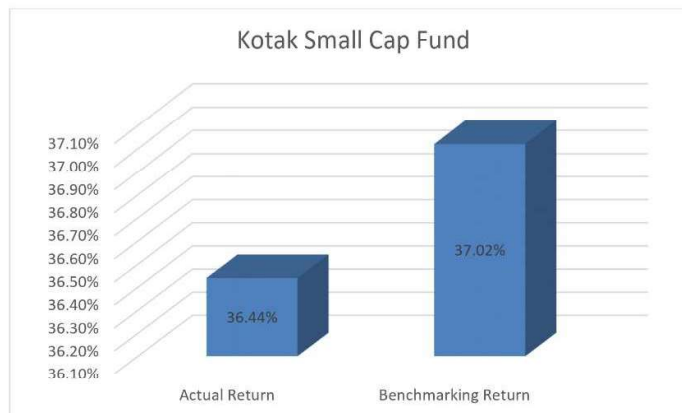
Years	Actual Return	Benchmarking Return
1	48.04%	47.56%



The above graph shows that the actual returns for past year 1 is 29.16% of Nippon India Growth Fund, which as compared to benchmarking standards is 25.05%. Further it can also be concluded that this particular fund has outperformed the benchmarking return in the given period and had succeeded to generate Alpha.

Kotak Small Cap Fund

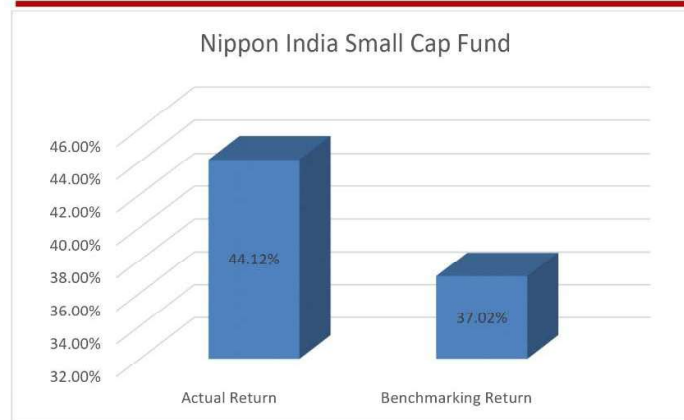
Years	Actual Return	Benchmarking Return
1	36.44%	37.02%



The above graph shows that the actual returns for past year 1 is 36.44% of Kotak Small Cap Fund, which as compared to benchmarking standards is 37.02%. Further it can also be concluded that this particular fund has not outperformed the benchmarking return in the given period and had failed to generate Alpha.

Nippon India Small Cap Fund

Years	Actual Return	Benchmarking Return
1	44.12%	37.02%



The above graph shows that the actual returns for past year 1 is 44.12% of Nippon India Growth Fund, which as compared to benchmarking standards is 37.02%. Further it can also be concluded that this particular fund has outperformed the benchmarking return in the given period and had succeeded to generate Alpha.

Testing of Hypothesis:

H0: There is no significant difference between the actual returns of the selected Kotak Mutual fund schemes and Nippon India Mutual fund schemes

H1: There is significant difference between the actual returns of the selected Kotak Mutual fund schemes and Nippon India Mutual fund schemes

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	0.260666667	0.327833333
Variance	0.009330703	0.010057203
Observations	3	3
Pooled Variance	0.009693953	
Hypothesized Mean Difference	0	
Df	4	
t Stat	-0.835504826	
P(T<=t) one-tail	0.225217197	
t Critical one-tail	2.131846786	
P(T<=t) two-tail	0.450434395	
t Critical two-tail	2.776445105	

The above table shows the t-test of actual returns selected Kotak mutual fund schemes and Nippon India mutual fund schemes. The result show that the t critical value is more than that of t stat value, hence H0 is rejected and H1 is accepted. Which means that there is a significant difference between the actual returns of the selected Kotak Mutual fund schemes and Nippon India Mutual fund schemes.

Findings:

- The CAGR of Kotak blue chip fund from January 2022 to December 2022 is 17.33% which is less than the standard benchmarking returns of 20.63% laid down by SEBI.
- The CAGR of Nippon India large cap fund from January 2022 to December 2022 is 25.07% which is more than the standard benchmarking returns of 20.63% laid down by SEBI.



- The CAGR of Kotak Emerging Equity fund from January 2022 to December 2022 is 24.43% which is less than the standard benchmarking returns of 25.05% laid down by SEBI.
- The CAGR of Nippon India growth fund from January 2022 to December 2022 is 29.16% which is more than the standard benchmarking returns of 25.05% laid down by SEBI.
- The CAGR of Kotak small cap fund from January 2022 to December 2022 is 36.44% which is less than the standard benchmarking returns of 37.02% laid down by SEBI.
- The CAGR of Nippon India large cap fund from January 2022 to December 2022 is 44.12% which is more than the standard benchmarking returns of 37.02% laid down by SEBI.

Suggestions for Future Research

- The horizon taken into study is of 1 year from January 2022 to December 2022.
- The switch in and switch out of fund managers during the selected period is not taken into consideration.
- The comparison is down between selected 2 AMC funds only.
- Large cap, mid cap and small cap are the only 3 schemes taken into consideration.
- This size of the fund is not taken into consideration, only their CAGR return is taken into consideration along with its benchmarking returns.

Conclusion

Thus, it can be concluded that the large cap, mid cap and small cap schemes of Nippon India mutual fund are performing better than those of Kotak mutual fund as well as its benchmark for the given period of time. The study emphasis on the returns earned by particular mutual fund with compared to its benchmarking returns, and based upon which tests has been conducted and the results have been mentioned above.

References

- Financial Services - Gupta & Agrawal
- Financial Services & System - K Sasidharan
- Personal Finance - Jack R Kapoor, Les R Dlabay, Robert J Hughes
- Research Methodology: Methods & Techniques - Kothari C R
- Business Statistics - Ken Black
- <https://www.sebi.gov.in>
- <https://www.amfiindia.com>
- <https://www.mutualfundssahihai.com>
- <https://www.moneycontrol.com>
- <https://www.valueresearchonline.com>
- <https://www.kotakmf.com>
- <https://mf.nipponindiaim.com>

List of Publication

Research Paper 2



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A comparative analysis between actual performance of mutual funds returns with benchmarking returns over the period of 10 years

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Abstract:

Mutual funds have gained a speedy momentum in the past years in a developing nation like India. This research paper indicates the overview of mutual fund schemes and their performance in returns. SEBI executed Categorization and rationalization of mutual fund schemes in 2017-18. Investments can be categorized into 4 various asset class – Equity, Debt, Commodity and Real Estate. Equity Mutual funds can be categorized into Large Cap, Mid Cap, Small Cap, Multi Cap, Flexi Cap, etc. This research focuses on the comparative study of the actual returns for selected multi-cap schemes with context to their benchmarking returns. This research covers the study of multi-cap schemes for past 10 years.

Key words: Multi-cap schemes, Actual returns, Benchmarking returns

Introduction:

The mutual fund industry started in India in the year 1963 with formation of UTI, a joint initiative of the GOI and RBI. Their first scheme was launched in 1964 which generated AUM of ₹ 6,700 crores. Initially the growth was slow which accelerated from the year 1987 when non-UTI players entered the industry. There after SEBI was formed in 1992 which governed and regulated the industry and market. In 1993, new economic policy of Liberalization and Privatization opened the gates for private sector for launching mutual funds. In 1995, a non-profit organisation was incorporated called Association of Mutual Funds in India - AMFI, which defines the industry standards in India. In October 2017, SEBI laid down the categories of schemes, describing each schemes characteristic. As on March, 2023 there were 44 registered fund houses in India. Together they offered more than 2,541 mutual fund schemes whose AUM stood up to ₹ 53,13,000 crores approx.

Literature Review:

- **John Broadent, Michael Palumbo, Elizabeth Woodman (2016)** in their research paper titled, **“Implication for Asset Allocation and Risk Management”** The analysis and conclusions set forth in this paper are those of the authors and do not indicate concurrence by other members of the research staff or the Board of Governors or any other officials in the Federal Reserve System or at the Federal Reserve Bank of Australia or at the Bank of Canada.
- **Dr. Kuberudu Burlakanti, Ravi Varma Chiruvuori (2022)** in their research paper titled, **“Performance Evaluation of Selecting Equity Funds in India”** There are many Asset Management Companies (AMC) offering mutual funds in India. All these fund houses have several mutual fund schemes in each segment like equity, debt, gilt and liquid funds. Out of which equity segment is flourished and most of the investors are attracted towards equity mutual fund schemes. Because of availability of wide range of equity MF schemes in each AMC, it would be difficult for the investor to choose the best scheme. It is appropriate to consider risk and return of each fund to yield better returns before taking investment decision. Hence Present study is an attempt of identifying risk and returns of equity funds and comparing the same with bench mark returns and peers to help mutual fund investors in choosing better funds as investment avenues.
- **Dr. V. Ramanujan, A. Bhuvaneshwari (2020)** in their research paper titled, **“Growth and Performance of Indian Mutual Fund Industry during past Decades”** Mutual Funds entered the Indian Capital Market in 1964 with a view to provide the benefit of diversification of risk, assured returns, and professional management. A mutual fund is a special type of investment institution that acts as an investment conduit. It pools the savings, particularly of the relatively small investors, and invests them in a well-diversified portfolio of sound investment. Mutual fund issue securities to the investors in accordance with the quantum of money invested by them. The profit or losses are shared by the investors in proportion to their investments.

Statement of Problem:

- To Identify the actual returns of mutual fund schemes with respect to multi-cap funds.
- To analyse the benchmarking returns of mutual fund schemes with respect to multi-cap funds.
- Research Objectives:**
 - To know the actual returns of mutual fund schemes with respect to multi-cap funds.
 - To find out the benchmarking returns of mutual fund schemes with respect to multi-cap funds.
 - To establish the relationship between actual returns and benchmarking returns of mutual fund schemes with reference to multi-cap schemes.
 - To make comparative analysis and interpretation between benchmarking returns and actual returns of mutual fund schemes in context to multi-cap schemes

Data Collection Method:

Secondary data is used in this research from the official website of Association of Mutual Funds in India (AMFI)

Research Design:

Descriptive research design is taken into consideration for this research

Sampling Design:

Sampling Method: In this research non-probability convenient sampling method is taken into consideration.

Sampling Size: 6 multi-cap mutual fund schemes are been taken for the study that involves the time frame of past 10 years (from April 2011 to March 2021). This mutual fund schemes are

SR. NO.	MUTUAL FUND SCHEMES (MULTI-CAP) (REGULAR) (GROWTH)
1	Quant Active Fund
2	Invesco India Multicap Fund
3	Nippon India Multi Cap Fund
4	ICICI Prudential Multicap Fund
5	Baroda BNP Paribas Multi Cap Fund
6	Sundaram Multi Cap Fund

Data Analysis and Interpretation:

SR. NO.	MUTUAL FUND SCHEMES (MULTI-CAP) (REGULAR) (GROWTH)
1	Quant Active Fund
2	Invesco India Multicap Fund
3	Nippon India Multi Cap Fund
4	ICICI Prudential Multicap Fund
5	Baroda BNP Paribas Multi Cap Fund
6	Sundaram Multi Cap Fund

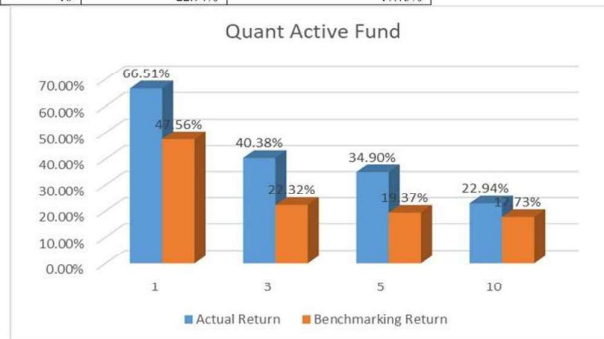
The above table shows that multi-cap schemes are arranged on basis of their actual returns and performance

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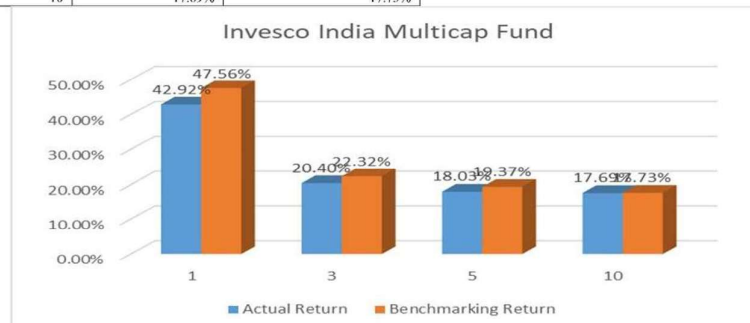


Quant Active Fund		
Years	Actual Return	Benchmarking Return
1	66.51%	47.56%
3	40.38%	22.32%
5	34.90%	19.37%
10	22.94%	17.73%



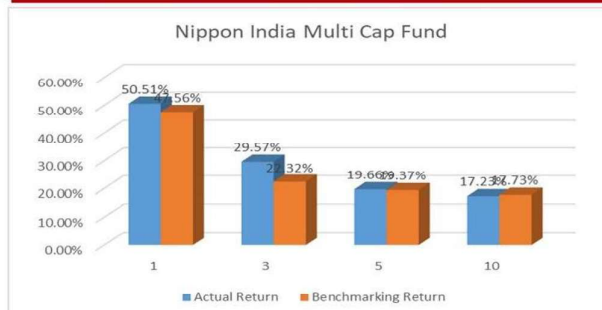
The above graph shows that the actual returns for past year 1, 3, 5 and 10 years is 66.51%, 40.38%, 34.90% and 22.94% respectively of Quant Active Fund, which as compared to benchmarking standards is 47.56%, 22.32%, 19.37% and 17.73% respectively. Further it can also be concluded that this particular fund has outperformed the benchmarking return in each of the phase and had succeeded to generate Alpha.

Invesco India Multicap Fund		
Years	Actual Return	Benchmarking Return
1	42.92%	47.56%
3	20.40%	22.32%
5	18.03%	19.37%
10	17.69%	17.73%



The above graph shows that the actual returns for past year 1, 3, 5 and 10 years is 42.92%, 20.40%, 18.03% and 17.69% respectively of Invesco India Multicap Fund, which as compared to benchmarking standards is 47.56%, 22.32%, 19.37% and 17.73% respectively. Further it can also be concluded that this particular fund has failed to outperformed the benchmarking return in each of the phase and has not succeeded to generate Alpha.

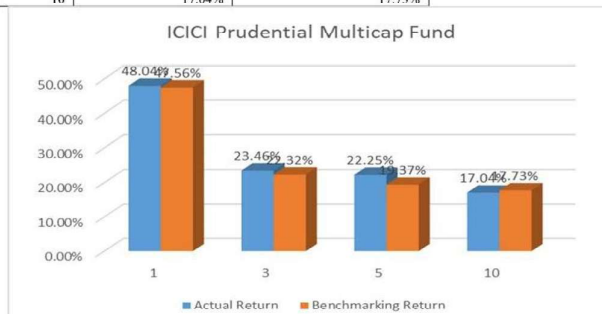
Nippon India Multi Cap Fund		
Years	Actual Return	Benchmarking Return
1	50.51%	47.56%
3	29.57%	22.32%
5	19.66%	19.37%
10	17.23%	17.73%



The above graph shows that the actual returns for past year 1, 3, 5 and 10 years is 50.51%, 29.57%, 19.66% and 17.23% respectively of Nippon India Multi Cap Fund, which as compared to benchmarking standards is 47.56%, 22.32%, 19.37% and 17.73% respectively. Further it can also be concluded that except for a 10-year phase wherein the fund has failed to beat benchmarking returns, whereas in all other phase this particular fund has outperformed the benchmarking return and had succeeded to generate Alpha.

ICICI Prudential Multicap Fund

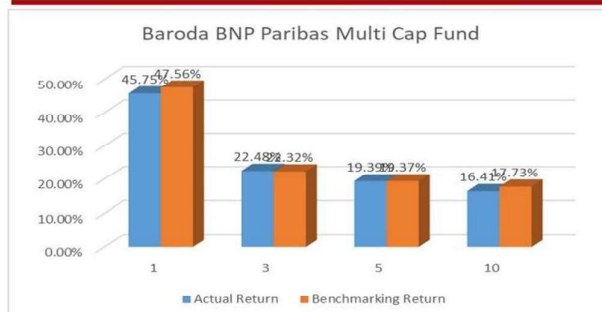
Years	Actual Return	Benchmarking Return
1	48.04%	47.56%
3	23.46%	22.32%
5	22.25%	19.37%
10	17.04%	17.73%



The above graph shows that the actual returns for past year 1, 3, 5 and 10 years is 48.04%, 23.46%, 22.25% and 17.04% respectively of ICICI Prudential Multicap Fund, which as compared to benchmarking standards is 47.56%, 22.32%, 19.37% and 17.73% respectively. Further it can also be concluded that except for a 10-year phase wherein the fund has failed to beat benchmarking returns, whereas in all other phase this particular fund has outperformed the benchmarking return and had succeeded to generate Alpha.

Baroda BNP Paribas Multi Cap Fund

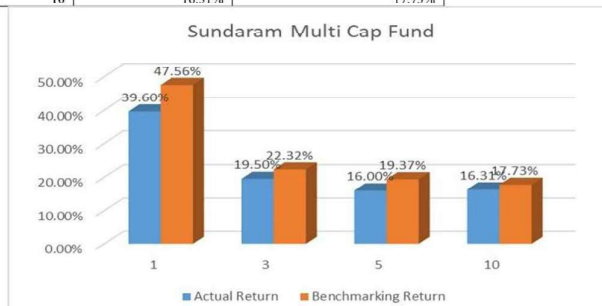
Years	Actual Return	Benchmarking Return
1	45.75%	47.56%
3	22.48%	22.32%
5	19.39%	19.37%
10	16.41%	17.73%



The above graph shows that the actual returns for past year 1, 3, 5 and 10 years is 45.75%, 22.48%, 19.39% and 16.41% respectively of Baroda BNP Paribas Multi Cap Fund, which as compared to benchmarking standards is 47.56%, 22.32%, 19.37% and 17.73% respectively. Further it can also be concluded that except for phase of 1 year and 10-year wherein the fund has failed to beat benchmarking returns, whereas in other two phase this particular fund has outperformed the benchmarking return and had succeeded to generate Alpha.

Sundaram Multi Cap Fund

Years	Actual Return	Benchmarking Return
1	39.60%	47.56%
3	19.50%	22.32%
5	16.00%	19.37%
10	16.31%	17.73%



The above graph shows that the actual returns for past year 1, 3, 5 and 10 years is 39.60%, 19.50%, 16.00% and 16.31% respectively of Invesco India Multicap Fund, which as compared to benchmarking standards is 47.56%, 22.32%, 19.37% and 17.73% respectively. Further it can also be concluded that this particular fund has failed to outperformed the benchmarking return in each of the phase and has not succeeded to generate Alpha.

Testing of Hypothesis:

H0: There is no significant difference between actual returns for the selected multi-cap funds and benchmarking returns set by SEBI

H1: There is significant difference between actual returns for the selected multi-cap funds and benchmarking returns set by SEBI

I. Quant Active Fund

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	41.1825	26.745
Variance	338.1282917	196.1685667
Observations	4	4
Pooled Variance	267.1484292	
Hypothesized Mean Difference	0	
Df	6	
t Stat	1.249196781	
P(T<=t) one-tail	0.129058794	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.258117588	
t Critical two-tail	2.446911851	



The above table shows the t-test of actual returns of Quant Active Fund form each of the selection phase 1, 3, 5 and 10-years horizon as compared with its benchmarking returns. The result show that the t critical value is more than that of t stat value, hence H0 is rejected and H1 is accepted. Which means that there is significant difference between actual returns for the selected multi-cap funds and benchmarking returns.

2. Invesco India Multicap Fund

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	24.76	26.745
Variance	148.0243333	196.1685667
Observations	4	4
Pooled Variance	172.09645	
Hypothesized Mean Difference	0	
Df	6	
t Stat	-0.21398807	
P(T<=t) one-tail	0.418821538	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.837643076	
t Critical two-tail	2.446911851	

The above table shows the t-test of actual returns of Invesco India Multicap Fund form each of the selection phase 1, 3, 5 and 10-years horizon as compared with its benchmarking returns. The result show that the t critical value is more than that of t stat value, hence H0 is rejected and H1 is accepted. Which means that there is significant difference between actual returns for the selected multi-cap funds and benchmarking returns.

3. Nippon India Multi Cap Fund

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	29.2425	26.745
Variance	229.5127583	196.1685667
Observations	4	4
Pooled Variance	212.8406625	
Hypothesized Mean Difference	0	
Df	6	
t Stat	0.24209911	
P(T<=t) one-tail	0.408383003	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.816766005	
t Critical two-tail	2.446911851	

The above table shows the t-test of actual returns of Nippon India Multi Cap Fund form each of the selection phase 1, 3, 5 and 10-years horizon as compared with its benchmarking returns. The result show that the t critical value is more than that of t stat value, hence H1 is rejected and H0 is accepted. Which means that there is no significant difference between actual returns for the selected multi-cap funds and benchmarking returns.

4. ICICI Prudential Multicap Fund

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	27.6975	26.745
Variance	191.6770917	196.1685667
Observations	4	4
Pooled Variance	193.9228292	
Hypothesized Mean Difference	0	
Df	6	
t Stat	0.096730963	
P(T<=t) one-tail	0.463045106	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.926090213	
t Critical two-tail	2.446911851	

The above table shows the t-test of actual returns of ICICI Prudential Multicap Fund form each of the selection phase 1, 3, 5 and 10-years horizon as compared with its benchmarking returns. The result show that the t critical value is more than that of t stat value, hence H0 is rejected and H1 is accepted. Which means that there is significant difference between actual returns for the selected multi-cap funds and benchmarking returns.

5. Baroda BNP Paribas Multi Cap Fund

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	26.0075	26.745
Variance	179.3709583	196.1685667
Observations	4	4
Pooled Variance	187.7697625	
Hypothesized Mean Difference	0	
Df	6	
t Stat	-0.07611394	
P(T<=t) one-tail	0.470901475	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.941802949	
t Critical two-tail	2.446911851	



The above table shows the t-test of actual returns of Baroda BNP Paribas Multi Cap Fund form each of the selection phase 1, 3, 5 and 10-years horizon as compared with its benchmarking returns. The result show that the t critical value is more than that of t stat value, hence H0 is rejected and H1 is accepted. Which means that there is significant difference between actual returns for the selected multi-cap funds and benchmarking returns.

6. Sundaram Multi Cap Fund

t-Test: Two-Sample Assuming Equal Variances

	Variable 1	Variable 2
Mean	22.8525	26.745
Variance	127.1596917	196.1685667
Observations	4	4
Pooled Variance	161.6641292	
Hypothesized Mean Difference	0	
Df	6	
t Stat	-0.43294904	
P(T<=t) one-tail	0.340091027	
t Critical one-tail	1.943180281	
P(T<=t) two-tail	0.680182055	
t Critical two-tail	2.446911851	

The above table shows the t-test of actual returns of Sundaram Multi Cap Fund form each of the selection phase 1, 3, 5 and 10-years horizon as compared with its benchmarking returns. The result show that the t critical value is more than that of t stat value, hence H0 is rejected and H1 is accepted. Which means that there is significant difference between actual returns for the selected multi-cap funds and benchmarking returns.

Findings:

- There are only 6 schemes which reveals the data (actual returns) for past 10 years, these mutual funds are Quant Active Fund, Invesco India Multicap Fund, Nippon India Multicap Fund, ICICI Prudential Multicap Fund, Baroda BNP Paribas Multi Cap Fund, Sundaram Multi Cap Fund.
- The CAGR of Quant Active Fund for past year 1, 3, 5 and 10 years is 66.51%, 40.38%, 34.90% and 22.94% respectively which is more than the standard benchmarking returns of 47.56%, 22.32%, 19.37% and 17.73% laid by SEBI.
- The CAGR of Invesco India Multicap Fund for past year 1, 3, 5 and 10 years is 42.92%, 20.40%, 18.03% and 17.69% respectively which is less than the standard benchmarking returns of 47.56%, 22.32%, 19.37% and 17.73% laid by SEBI.
- The CAGR of Nippon India Multi Cap Fund for past year 1, 3, 5 and 10 years is 50.51%, 29.57%, 19.66% and 17.23% respectively which is more than the standard benchmarking returns of 47.56%, 22.32%, 19.37% and 17.73% laid by SEBI, except the 10-year phase where the returns are less than benchmarking standard.
- The CAGR of ICICI Prudential Multicap Fund for past year 1, 3, 5 and 10 years is 47.04%, 23.46%, 22.25% and 17.04% respectively which is more than the standard benchmarking returns of 47.56%, 22.32%, 19.37% and 17.73% laid by SEBI, except for the 1 and 10-year phase where the returns are less than benchmarking standard.
- The CAGR of Baroda BNP Paribas Multicap Fund for past year 1, 3, 5 and 10 years is 45.75%, 22.48%, 19.39% and 16.41% respectively which is more than the standard benchmarking returns of 47.56%, 22.32%, 19.37% and 17.73% laid by SEBI, except for the 1 and 10-year phase where the returns are less than benchmarking standard.
- The CAGR of Sundaram Multi Cap Fund for past year 1, 3, 5 and 10 years is 39.60%, 19.50%, 16.00% and 16.31% respectively which is less than the standard benchmarking returns of 47.56%, 22.32%, 19.37% and 17.73% laid by SEBI.
- Suggestions for Future Research
- The horizon taken into study is of 10 years from April 2011 ending March 2021.
- The switch in and switch out of fund managers during the selected period is not taken into consideration.
- SEBI scheme re-categorization done in 2017-18 eliminates many other schemes who were forced to rename and switch the category.
- This size of the fund is not taken into consideration, only their CAGR return is taken into consideration along with its benchmarking returns.

Conclusion

Thus, it can be concluded that the Multicap schemes has been re-categorized by SEBI in the year 2017-18, wherein the circular clarifies that 25% of large cap, 25% of Mid-cap and 25% of small cap is must to make the fund categorized as Multicap. The study emphasis on the returns earned by particular mutual fund with compared to its benchmarking returns, and based upon which tests has been conducted and the results have been mentioned above.

References

- Financial Services & System - K Sasidharan
- Financial Services - Gupta & Agrawal
- Personal Finance - Jack R Kapoor, Les R Dlabay, Robert J Hughes
- Research Methodology: Methods & Techniques - Kothari C R
- Business Statistics - Ken Black
- <https://www.sebi.gov.in>
- <https://www.amfiindia.com>
- <https://www.mutualfundsahihai.com>
- <https://www.moneycontrol.com>
- <https://www.valueresearchonline.com>
- <https://quantmutual.com>
- <https://www.invescomutualfund.com>
- <https://mf.nipponindiaim.com>
- <https://www.icicipruamc.com>
- <https://www.barodabnp-paribasamf.in>
- <https://www.sundarammutual.com>