

# A Study on Performance Consistency of Selected Mid-Cap Mutual Funds: A Risk-Adjusted and Rolling Returns Approach

Ms. S.V. Keerthana<sup>1</sup>, Mrs. Shireen fathima .S<sup>2</sup>

<sup>1</sup>Student, Department of MBA, Panimalar Engineering College, Chennai – 600123

<sup>2</sup>Assistant Professor, Department of MBA, Panimalar Engineering College,

## Chennai - 600123 ABSTRACT

This study evaluates the performance consistency of selected Indian mid-cap mutual funds over the period April 2020 to March 2025 using risk-adjusted measures and rolling returns. The analysis covers five funds: DSP Midcap Fund, Invesco India Midcap Fund, Nippon India Growth Fund, HDFC Mid- Cap Fund, and Motilal Oswal Midcap Fund. Key metrics such as Sharpe Ratio, Treynor Ratio, Jensen's Alpha, and rolling returns are used to assess return efficiency and stability. The findings show that HDFC Mid Cap Fund performs best in risk-adjusted terms, while Nippon India Growth Fund demonstrates strong long-term consistency. However, all funds underperform the benchmark (NIFTY Midcap 150). The study highlights the importance of considering risk and consistency alongside returns.

**KEYWORDS:** Mutual Funds, Mid-Cap Funds, Risk-Adjusted Performance, Rolling Returns

## 1.0 INTRODUCTION

Mutual funds have become a preferred investment option in India due to diversification, professional management, and accessibility. Among them, mid-cap funds offer a balance between growth potential and risk. Investors increasingly focus on risk-adjusted performance rather than absolute returns. Measures such as Sharpe Ratio, Treynor Ratio, and Jensen's Alpha help assess return efficiency relative to risk. Additionally, rolling returns provide a comprehensive view of consistency across market cycles. This study evaluates the performance of selected mid-cap funds using these metrics to understand their stability and reliability, helping investors make informed decisions based on both returns and associated risks.

## 2.0 PROBLEM STATEMENT AND RESEARCH OBJECTIVE

### 2.1 PROBLEM STATEMENT

This study is needed to evaluate the performance of selected mid-cap mutual funds, as these funds offer high return potential but are associated with increased volatility and risk. Investors often rely on absolute returns, which may not accurately reflect fund efficiency across varying market conditions. There is a need to assess whether these funds deliver consistent performance over time using reliable measures such as risk-adjusted ratios and rolling returns. Additionally, comparing fund performance with benchmark indices helps determine the effectiveness of fund management. The study aims to provide meaningful insights to support informed and rational investment decision-making.

### 2.2 RESEARCH OBJECTIVES

- To analyze the consistency of risk-adjusted performance of selected mid-cap mutual funds using rolling returns and performance ratios.
- To evaluate rolling return performance over different time horizons
- To compare fund performance with the benchmark index

- To analyze consistency across market conditions.
  - To rank funds based on risk-adjusted performance
- 

### 3.0 REVIEW OF LITERATURE

#### 1. Binoy Thomas, Vinu Wilson(2025)

This study focuses on evaluating mutual fund performance using Sharpe Ratio, Treynor Ratio, and Jensen's Alpha, highlighting the importance of risk-adjusted measures in determining fund efficiency and investment suitability.

#### 2. Debendra Shaw, Prof. P. K. Samanta (2025)

This study analyzes the performance persistence in mutual funds using the Hurst Exponent, emphasizing consistency in returns and supporting long-term investment strategies based on predictable performance trends.

#### 3. Dr.T.Praveen Kumar., & Dr. Mohammed Irfan(2025)

This study focuses on assessing mutual fund returns relative to risk, demonstrating how risk-adjusted performance measures provide better insights into fund efficiency and help investors make informed decisions.

#### 4. G.Nandini, Aseenababu Shaik, A.Srikanth(2025)

This study focuses on evaluating mutual fund performance using various financial and statistical tools, providing insights into return behavior, risk levels, and the effectiveness of fund management strategies.

#### 5. Subhramaya Nayak, Sushil Kumar Pradhan, Prasanna Kumar Baral(2024)

This study focuses on comparative analysis of mutual funds against benchmark indices, highlighting performance differences, consistency levels, and the role of active fund management in generating returns.

---

## 4.0 RESEARCH METHODOLOGY

### 4.1 RESEARCH DESIGN

The study adopts a descriptive and analytical research design to evaluate the performance consistency of selected mid-cap mutual funds in India. The descriptive component focuses on summarizing return patterns, volatility, and overall performance characteristics, while the analytical approach examines relationships between risk and return using statistical and financial tools. The study is based entirely on secondary data collected from reliable sources such as fund fact sheets, financial databases, and regulatory platforms. A sample of five mid-cap mutual funds was selected based on market presence and relevance. The time period of analysis spans from April 2020 to March 2025, enabling evaluation across different market conditions. This design ensures a systematic and objective assessment of fund performance, allowing meaningful interpretation of consistency and efficiency in investment outcomes.

### 4.2 RESEARCH FRAMEWORK AND ANALYTICAL METHODOLOGY

The research framework is structured to assess mutual fund performance through a combination of return, risk, and consistency measures. The analytical methodology includes the calculation of average returns, standard deviation, and beta to evaluate return patterns and risk exposure. Risk-adjusted performance is assessed using Sharpe Ratio, Treynor Ratio, and Jensen's Alpha to determine the efficiency of fund management. Rolling returns analysis is applied to examine performance consistency across different time horizons, minimizing the bias of point-to-point returns. Additionally, comparative analysis with the benchmark index is conducted to evaluate relative performance. The

methodology follows a systematic approach, integrating multiple evaluation tools to provide a comprehensive understanding of fund performance and to support informed investment decision-making.

## 5.0 DATA ANALYSIS & INTERPRETATION

### 5.1 DESCRIPTIVE STATISTICS OF SELECTED MID-CAP FUND

Fund Name	Average Return (%)	Standard Deviation	Beta
DSP Midcap Fund	12.1	15.52	0.96
Invesco India Midcap Fund	18.22	16.71	1.17
Nippon India Growth Fund	20.02	15.22	0.96
HDFC Mid Cap Fund	19.96	13.77	0.87
Motilal Oswal Midcap Fund	19.51	18.33	1.02

#### INTERPRETATION:

The descriptive statistics indicate that Nippon India Growth Fund and HDFC Mid Cap Fund generated the highest average returns among the selected funds. However, HDFC Mid Cap Fund recorded the lowest standard deviation and beta, reflecting relatively lower volatility and market sensitivity. In contrast, Motilal Oswal Midcap Fund exhibited the highest risk levels. This highlights the trade-off between return and risk within the mid-cap category.

#### DISCUSSION:

The variation in returns and risk among the selected funds highlights the inherent nature of mid-cap investments, where higher returns are often accompanied by higher volatility. Funds with lower beta and standard deviation, such as HDFC Mid Cap Fund, may be more suitable for moderately risk-averse investors. This supports the concept that diversification and stability are crucial factors in portfolio construction within volatile market segments.

### 5.2 RISK-ADJUSTED PERFORMANCE MEASURES

Fund Name	Sharpe Ratio	Treynor Ratio	Jensen's Alpha
DSP Midcap Fund	0.89	1.27	1.65
Invesco India Midcap Fund	1.12	1.4	10.49
Nippon India Growth Fund	1.19	1.65	2.2
HDFC Mid Cap Fund	1.28	1.77	3.21
Motilal Oswal Midcap Fund	0.8	1.26	-2.22

#### INTERPRETATION:

The risk-adjusted performance analysis shows that HDFC Mid Cap Fund achieved the highest Sharpe and Treynor ratios, indicating superior efficiency in generating returns relative to risk. Invesco India Midcap Fund recorded the highest Jensen's Alpha, suggesting strong outperformance against expected market returns. Conversely, Motilal Oswal Midcap Fund displayed the weakest performance, with the lowest ratios and negative alpha, reflecting inefficiency in risk management.

#### DISCUSSION:

The findings reinforce the importance of evaluating mutual funds based on risk-adjusted measures rather than absolute returns. Funds like HDFC Mid Cap demonstrate efficient fund management by optimizing returns relative to risk. The strong alpha generation by Invesco suggests active management effectiveness. These results align with modern portfolio theory, which emphasizes maximizing returns for a given level of risk.

### 5.3 ROLLING RETURN ANALYSIS

#### (A) 1-Year Rolling Returns

Fund Name	Average (%)	Minimum (%)	Maximum (%)
DSP Midcap Fund	34.72	1.52	54.96
Invesco India Midcap Fund	44.6	10.51	64.31
Nippon India Growth Fund	41.97	5.15	61.85
HDFC Mid Cap Fund	38.88	2.15	61.98
Motilal Oswal Midcap Fund	54.27	14.04	74.98

#### (A) 3-Year Rolling Returns

Fund Name	Average (%)	Minimum (%)	Maximum (%)
DSP Midcap Fund	20.2	-6.66	54.96
Invesco India Midcap Fund	27.54	-2.35	61.98
Nippon India Growth Fund	28.03	-2.37	64.31
HDFC Mid Cap Fund	28.7	-13.62	74.98
Motilal Oswal Midcap Fund	26.86	-4.27	61.85

#### (B) 5-Year Rolling Returns

Fund Name	Average (%)	Minimum (%)	Maximum (%)
DSP Midcap Fund	21.02	-11.34	83.16
Invesco India Midcap Fund	31.01	-2.35	100.21
Nippon India Growth Fund	28.95	-5.12	89.72
HDFC Mid Cap Fund	33.92	-13.62	84.22
Motilal Oswal Midcap Fund	31.18	-4.27	95.02

#### INTERPRETATION:

Rolling returns analysis reveals that short-term returns (1-year) are highly volatile across all funds, with Motilal Oswal showing the highest fluctuations. However, long-term rolling returns (3-year and 5-year) demonstrate improved stability and consistency, particularly in HDFC and Nippon India funds. The presence of negative minimum returns in certain periods indicates exposure to market downturns, emphasizing the importance of a long-term investment horizon.

#### DISCUSSION:

The rolling returns analysis confirms that mid-cap funds are subject to short-term volatility but tend to deliver stable performance over longer investment horizons. This emphasizes the importance of long-term investing strategies such as SIPs. The presence of negative returns in certain periods also indicates that market timing is difficult, reinforcing the need for disciplined and consistent investment approaches.

### 5.4 BENCHMARK COMPARISON

Fund Name	Average Return (%)	Benchmark Return (%)	Excess Return (%)
Nippon India Growth Fund	20.02	28.43	-8.41
HDFC Mid Cap Fund	19.96	28.43	-8.47
Motilal Oswal Midcap Fund	19.51	28.43	-8.92
Invesco India Midcap Fund	18.22	28.43	-10.21
DSP Midcap Fund	12.1	28.43	-16.33

### INTERPRETATION:

The benchmark comparison indicates that all selected funds underperformed the NIFTY Midcap 150 index during the study period. Although the funds generated positive returns, their excess returns remained negative, with DSP Midcap Fund showing the largest gap. This suggests that active fund management was unable to consistently outperform the market, highlighting the efficiency of the benchmark during the high-growth phase.

### DISCUSSION:

The consistent underperformance of funds relative to the benchmark raises questions about the effectiveness of active fund management in the mid-cap segment. It suggests that passive investment strategies or index funds may offer comparable or better returns at lower costs. This finding is significant for investors evaluating the trade-off between active management fees and actual performance outcomes.

### 5.5 OVERALL RANKING(BASED ON PERFORMANCE & CONSISTENCY)

Rank	Fund Name	Key Strength
1	HDFC Mid Cap Fund	Best risk-adjusted performance
2	Nippon India Growth Fund	Highest return consistency
3	Invesco India Midcap Fund	Highest Jensen’s Alpha
4	DSP Midcap Fund	Moderate performance
5	Motilal Oswal Midcap Fund	High return but high volatility

### INTERPRETATION:

The overall ranking highlights HDFC Mid Cap Fund as the most efficient performer due to its strong risk-adjusted returns and stability. Nippon India Growth Fund ranks second based on consistent long-term performance. Invesco Midcap Fund shows strength in alpha generation, while DSP Midcap Fund demonstrates moderate performance. Motilal Oswal Midcap Fund ranks lowest due to high volatility and weaker risk-adjusted outcomes, despite strong short-term returns.

### DISCUSSION:

The ranking provides a holistic view of fund performance by combining return, risk, and consistency metrics. It highlights that top-performing funds are not necessarily those with the highest returns, but those that maintain stability and efficiency. This reinforces the importance of a balanced evaluation approach and supports the idea that consistent performers are more reliable for long-term wealth creation.

### 6.0 SUGGESTIONS

The study suggests that investors should prioritize mutual funds that demonstrate strong risk-adjusted performance rather than relying solely on high returns. Funds such as HDFC Mid Cap, which exhibit lower volatility and higher Sharpe and Treynor ratios, may be more suitable for long-term investment. Adopting a Systematic Investment Plan (SIP) can help mitigate the impact of market fluctuations and improve return consistency. Diversification across fund categories is also recommended to reduce overall portfolio risk. Investors should carefully evaluate expense ratios and fund management efficiency before making investment decisions. Additionally, incorporating passive investment options such as index funds may be beneficial, especially when active funds fail to outperform the benchmark. A disciplined, long-term investment approach is essential for maximizing returns in mid-cap mutual funds.

### CONCLUSION

The study concludes that mid-cap mutual funds offer significant growth opportunities but are associated with higher levels of risk and volatility. While some funds generate strong returns, their performance varies considerably when adjusted for risk. HDFC Mid Cap Fund emerges as the most efficient performer based on risk-adjusted measures, while Nippon India Growth Fund demonstrates strong long-term consistency. However, all selected funds underperform the benchmark index during the study period, highlighting the challenges of active fund management. The findings emphasize that investment decisions should be based on a comprehensive evaluation of return, risk, and consistency

rather than absolute returns alone. A long-term investment horizon, combined with disciplined strategies such as SIP and diversification, can help investors achieve more stable and reliable financial outcomes.

#### **REFERENCE BOOKS REFERED**

- Investment Management, V.K. Bhalla, S. Chand & Company Ltd., New Delhi, 2014.
- Security Analysis and Portfolio Management, Punithavathy Pandian, Vikas Publishing House Pvt. Ltd., New Delhi, 2013.

#### **JOURNAL REFERED**

1. Binoy Thomas, Vinu Wilson(2025) *Risk-Adjusted Performance Evaluation of Selected Equity Mutual Fund Schemes*, Vol. 2, Iss: 4, pp.520 – 529.
2. Debendra Shaw, Prof. P. K. Samanta (2025) *An Analysis Of Performance Persistence In Indian Mutual Fund Using Hurst Exponent*, Vol. 3, Iss: 1, pp.6 – 14.
3. Dr.T.Praveen Kumar., & Dr. Mohammed Irfan(2025) *Risk-Adjusted Return Analysis of Mutual Funds: An Empirical Study of the Indian Market*, 9-15. 10.48175/IJETIR80002.
4. G.Nandini, Aseenababu Shaik, A.Srikanth(2025) *Performance Evaluation Of Mutual Funds*, 5(4(1)):40-45.
5. Subhramaya Nayak, Sushil Kumar Pradhan, Prasanna Kumar Baral(2024) *Mutual Funds Unveiled: A Performance Review and Comparative Analysis*, Vol 4, Iss: 3,pp.246 - 256.