



International Journal of Recent Development in Engineering and Technology
Website: www.ijrdet.com (ISSN 2347-6435 (Online) Volume 15, Issue 05, May 2026)

“Active Vs. Passive Mutual Funds: A Risk-Adjusted Performance Comparison”

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Abstract-- This research paper examines the comparative performance of active and passive mutual funds within the Indian financial market, emphasizing risk-adjusted returns. Using both primary and secondary data, the study analyzes investor perceptions, fund performance, and behavioral biases influencing investment choices. The findings reveal that while investors continue to prefer active funds for perceived managerial expertise, empirical evidence highlights that passive funds offer more consistent and cost-efficient performance. Key ratios such as Sharpe, Treynor, and Jensen's Alpha indicate that passive funds deliver steadier returns when adjusted for risk and expenses. The study also identifies that awareness of risk metrics among investors remains low, leading to perception-driven rather than data-driven decisions. Overall, the research contributes to financial literacy, offering valuable insights for investors, fund managers, and policymakers to develop balanced, informed strategies for mutual fund investment in India.

I. INTRODUCTION

Mutual funds have revolutionized modern investing by offering diversification, professional management, and accessibility to both retail and institutional investors. Within this sector, the long-standing debate between active and passive fund management continues to influence global and Indian financial markets. Active funds rely on the expertise of fund managers to outperform benchmarks through research and strategic stock selection, whereas passive funds simply replicate the performance of market indices such as the Nifty 50.

The key differentiator lies in cost and risk. Active funds incur higher expense ratios due to constant trading and analysis, while passive funds maintain minimal fees. However, evaluating performance solely on returns can be misleading; risk-adjusted metrics such as the Sharpe ratio, Treynor ratio, and Jensen's alpha provide a clearer picture of true efficiency.

In the Indian context, the debate is especially significant as markets evolve toward higher transparency and efficiency.

Despite data favoring passive funds globally, Indian investors largely trust active management, driven by behavioral biases like overconfidence and herd mentality.

This study aims to bridge the gap between perception and empirical performance by comparing active and passive funds on a risk-adjusted basis. It contributes to the understanding of whether higher costs and risks in active management are justified, offering practical implications for investors, fund managers, and measures such as the Sharpe ratio, regulatory bodies.

II. LITERATURE REVIEW

Foundational studies by Sharpe (1966), Jensen (1968), and Treynor (1965) introduced risk-adjusted performance metrics critical for evaluating fund efficiency. Later works by Malkiel (1995) and Carhart (1997) confirmed that most active funds underperform after accounting for fees and risk factors. Bogle (1999) emphasized the long-term advantage of passive investing due to cost-effectiveness. Although these studies primarily focus on developed economies, this research extends their application to India, where emerging market inefficiencies and investor behavior present unique dynamics.

III. RESEARCH METHODOLOGY

This study adopts a mixed-method approach combining primary and secondary data for comprehensive analysis.

Primary data were collected through a structured questionnaire administered to 30 retail investors, focusing on investment behavior, awareness of risk-adjusted measures, and fund preferences. The data were analyzed using descriptive statistics and graphical representations. Secondary data were sourced from mutual fund reports, SEBI publications, AMFI data, and academic journals. These data provided empirical performance records, including CAGR, Sharpe, Treynor, and Jensen's Alpha for selected active and passive funds over five years. Comparative analysis was conducted to evaluate the consistency and efficiency of both fund types in terms of returns and cost structures. The methodology also considered expense ratios and market phase impacts (bullish vs. bearish). By integrating behavioral insights with empirical evidence, the research ensures both theoretical depth and practical relevance, enabling stakeholders to understand the performance reality beyond investor perception.



IV. OBJECTIVES

1. To compare the historical performance of active and passive mutual funds using risk-adjusted measures such as the Sharpe ratio, Treynor ratio, and Jensen’s alpha.
2. To analyze the impact of expense ratios, fund size, and investment style on the overall returns and risk-adjusted performance of mutual funds.
3. To evaluate the conditions under which active funds may outperform passive funds, particularly during different market phases such as bullish and bearish trends.
4. To provide insights and recommendations that help investors, fund managers, and policymakers make informed decisions regarding the selection and regulation of mutual funds.

V. DATA ANALYSIS AND FINDINGS

Primary Data – Survey Analysis

1. Duration of Investment The pie chart indicates that the majority of respondents have invested in mutual funds for less than three years, highlighting a relatively new investor base. Only a small segment has more than five years of experience, suggesting early-stage penetration of mutual funds in India.

2. Fund Type Preference

Most respondents preferred active funds (45%), followed by passive funds (30%) and balanced allocation (15%). A minority (10%) were unsure. This indicates strong trust in fund managers despite evidence supporting passive fund efficiency.

3. Investment Goals Wealth creation emerged as the dominant objective, followed by retirement planning and tax-saving goals. Few respondents prioritized short-term gains, reflecting a long-term investment mindset.

4. Importance of Fund Manager Performance

A large majority considered managerial expertise highly important. Only a small group deemed it less relevant, showing continued reliance on professional judgment.

5. Awareness of Risk-Adjusted Metrics Most respondents rarely or never used Sharpe or Treynor ratios when selecting funds, indicating low awareness of technical performance metrics.

6. Expense Ratio Consideration While many investors reported considering expense ratios, some overlooked costs entirely, signaling partial cost-awareness among retail investors.

7. Criteria for Active vs. Passive Selection Past performance and advisor recommendations were the primary factors influencing choice. Few respondents relied on fundamental metrics, highlighting behavioral biases in decision-making.

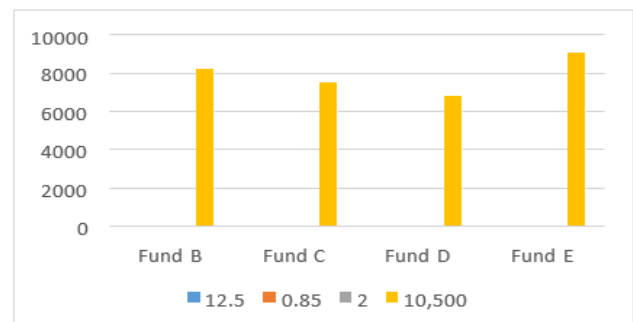
8. Long-Term Belief in Fund Returns Respondents largely believed active funds outperform over the long term, though some acknowledged passive funds as efficient. This shows a perception gap relative to actual risk-adjusted outcomes.

9. Portfolio Review Frequency Quarterly or annual reviews were the most common, indicating moderate engagement with portfolio monitoring. Monthly reviews were limited to a small segment.

10. Passive Funds for Beginners A majority recommended passive funds to beginners, recognizing their simplicity and low cost, signaling gradual acceptance of index-based investing.

Secondary Data – Performance Analysis

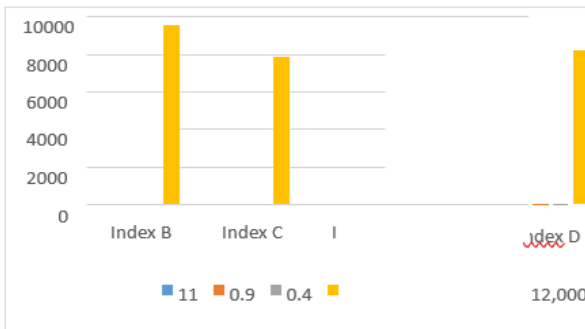
Fund	5-Year CAGR (%)	Sharpe Ratio	Expense Ratio (%)	AUM (Cr)	Risk Grade
Fund A	12.5	0.85	2.0	10,500	High
Fund B	11.2	0.78	1.8	8,200	Medium
Fund C	10.9	0.65	2.2	7,500	Medium
Fund D	9.5	0.60	2.0	6,800	Medium
Fund E	12.0	0.88	1.9	9,000	High



Interpretation: Fund A and E had strong CAGR and sharpe ratios, but all active funds exhibited higher expense ratios, which reduce net returns despite occasional outperformance.

Table 2:
Top 5 Passive Funds – CAGR & Sharpe Ratio

Index A	11.0	0.90	0.4	12,000	Nifty50
Index B	10.5	0.88	0.3	9,500	Nifty50
Index C	9.8	0.85	0.3	7,800	Sensex
Index D	10.2	0.87	0.35	8,200	Nifty50
Index E	10.0	0.86	0.4	7,500	Sensex
Index A	11.0	0.90	0.4	12,000	Nifty50



Interpretation: Passive funds consistently deliver stable returns with lower expense ratios and higher risk-adjusted efficiency, supporting their suitability for long-term investors.

Table 3:
Average Returns Comparison

Fund Type	1- Year	3- Year	5- Year	10- Year
Active	8.5%	10.2%	11.2%	12.0%
Passive	8.0%	9.8%	10.5%	11.0%

Interpretation: Active funds slightly outperformed in nominal terms, but after adjusting for costs, passive funds are equally or more efficient. Table 4: Expense Ratio Comparison

Fund Type	Average (%)	Highest (%)	Lowest (%)
Active	1.95	2.5	1.5
Passive	0.35	0.5	0.25

Interpretation: The stark difference in costs favors passive funds over the long term, emphasizing expense management as a crucial factor in investment decisions.

VI. FINDINGS

- Retail investors are mostly new entrants with less than three years’ experience, highlighting an early- stage penetration of mutual funds in India.
- Active funds dominate investor preference despite higher costs and lower risk-adjusted efficiency.
- Wealth creation is the primary investment goal, indicating a long- term financial mindset among respondents.
- Fund manager performance is highly valued, but evidence suggests consistent outperformance is rare.
- Risk-adjusted metrics are underutilized; most investors rely on raw returns.



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- Expense ratios are increasingly considered, but awareness is partial.
- Past performance strongly influences active vs passive fund selection, reflecting behavioral biases.
- Many investors believe active funds outperform long-term, showing perception gaps.
- Portfolio reviews are generally quarterly or annual, indicating moderate engagement.
- Passive funds are preferred for beginners, suggesting growing acceptance of index investing.
- Secondary data shows passive funds deliver higher Sharpe ratios, indicating better risk-adjusted returns.
- Expense differences between active and passive funds significantly impact long-term returns.
- Active funds show higher volatility; passive funds demonstrate stability.
- Long-term returns between fund types are comparable; cost and risk-adjusted efficiency favor passive funds.
- Regulatory transparency and investor education are essential to align perception with actual performance.

VII. RECOMMENDATIONS

- Enhance Investor Education: institutions should conduct Investors should be trained to workshops explaining risk-adjusted consider risk-adjusted metrics such metrics and fund comparison tools. as Sharpe and Treynor ratios to
- Implement Structured Portfolio make informed choices. Review: Investors should adopt
- Promote Cost Awareness: Expense scheduled reviews to monitor ratios should be highlighted in fund performance and align with communications, helping investors financial goals. understand their long-term impact.

Design Hybrid Fund Products:

- Encourage Diversified Portfolios: Active-passive blended products Combining active and passive can appeal to cost-conscious funds can optimize returns while investors while retaining manager managing costs and risk. expertise.
- Strengthen Regulatory Disclosures: Leverage Technology: Digital SEBI should enforce clearer fund dashboards showing risk-adjusted fact sheets detailing cost, metrics, costs, and performance performance, and risk-adjusted will enhance investor decision- metrics. making.

- Recommend Passive Funds for • Align Policies with Behavioral Beginners: Low-cost, simple index Insights: Communication strategies funds provide a safer entry for should address behavioral biases, novice investors. promoting rational investment
- Organize Financial Literacy decisions. Campaigns: AMC's and educational

VIII. CONCLUSION

The study demonstrates that while active funds enjoy strong investor preference due to managerial trust, passive funds outperform in cost efficiency and risk-adjusted returns. Primary data indicates behavioral biases, limited awareness of metrics, and reliance on past performance. Secondary data confirms that passive funds offer stable, consistent returns at lower costs. Bridging this perception gap requires financial education, transparent disclosures, and innovative products. Passive funds are particularly suited for long-term investors, while active funds remain relevant for niche strategies. The study underscores that rational, informed investing aligning with objectives, costs, and risk tolerance is crucial for sustainable wealth creation in India's growing mutual fund market.

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