



RESEARCH REPORT

**ACTIVE VS PASSIVE MUTUAL FUNDS:
A COMPARATIVE PERFORMANCE AND INVESTOR
PREFERENCE STUDY**

Indian Mutual Fund Industry | FY 2019–20 to FY 2023–24

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EXECUTIVE SUMMARY

This report presents a rigorous comparative study of active and passive mutual funds in the Indian financial market. Using five years of secondary performance data (FY 2019–20 to FY 2023–24) across ten selected funds and primary survey responses from 100 retail investors, the study evaluates whether actively managed large-cap funds justify their higher costs through superior risk-adjusted performance.

Key Conclusions at a Glance

Dimension	Finding
Gross Return Advantage (Active)	+0.69% p.a. over passive
Net Return Advantage (after costs)	Negative — active underperforms by ~0.71% p.a.
Risk-Adjusted Performance (t-test)	No statistically significant difference ($p = 0.094$)
Investor Preference for Active Funds	58% of surveyed investors prefer active funds
Awareness driving passive preference	Highly significant (chi-square $p = 0.001$)
Expense Cost Differential (5 yr, ₹1L)	₹7,253 more in active fund costs vs. passive

The integrated evidence supports the conclusion that passively managed Nifty 50 index funds represent a more cost-effective option for retail investors in the large-cap equity segment. The case for active management is more compelling in less efficient mid-cap and small-cap segments.



1. INTRODUCTION

1.1 Background

Mutual funds have emerged as the most widely adopted investment vehicle in both developed and developing economies, enabling retail investors to participate in diversified, professionally managed portfolios. The Indian mutual fund industry has witnessed extraordinary growth: Assets Under Management (AUM) grew from approximately ₹23 lakh crore in March 2019 to over ₹53 lakh crore by March 2024, a CAGR significantly outpacing most other financial sectors. The number of mutual fund folios surpassed 17 crore by early 2024, reflecting unprecedented retail participation driven by digital platforms such as Zerodha, Groww, and ET Money.

Within this landscape, two contrasting portfolio management philosophies have defined the industry: active and passive fund management. Understanding which approach better serves the Indian retail investor — both in terms of objective performance and behavioral alignment — is the central question of this study.

1.2 Active Fund Management

Active fund management employs professional managers who use fundamental analysis, sector rotation, market timing, and risk management to construct portfolios aimed at outperforming benchmark indices such as the Nifty 50. The key advantage is the potential to generate alpha during periods of market inefficiency. However, active management carries significant costs — management fees, research expenses, and higher portfolio turnover — reflected in expense ratios of 1.49%–1.72% per annum for the funds studied.

1.3 Passive Fund Management

Passive fund management replicates the composition of a benchmark index. Rooted in the Efficient Market Hypothesis (EMH), passive strategies accept market returns at dramatically lower cost. Available as index funds or Exchange-Traded Funds (ETFs), these products offer broad market exposure with expense ratios of just 0.17%–0.20% per annum. While passive funds cannot reduce equity exposure during bear markets, their long-term net performance record in large-cap categories has driven a global reallocation from active to passive strategies.

1.4 The Active vs. Passive Debate in India

The Indian market presents a unique context for this debate. While global evidence largely supports passive investing in developed, efficient markets, India's emerging market characteristics — including information asymmetries, lower analyst coverage in mid-/small-cap segments, and a maturing regulatory framework — may create genuine alpha opportunities for skilled active managers. SEBI's regulatory push for transparency and cost rationalization has accelerated the growth of passive products, intensifying the debate over whether active management costs are justified.

1.5 Research Problem

The central research problem is: Do actively managed large-cap mutual funds in India provide superior risk-adjusted returns compared to passively managed index funds on a net-of-cost



basis, and does investor preference align with the empirical performance evidence? This question is critical for investor welfare, as the expense ratio differential compounds significantly over long investment horizons and can result in substantial wealth erosion.



2. REVIEW OF LITERATURE

2.1 Foundational Theoretical Contributions

William Sharpe's Capital Asset Pricing Model (CAPM, 1964) provided the foundational framework for risk-adjusted performance evaluation. Michael Jensen (1968) conducted one of the earliest systematic studies, finding that on average, actively managed funds earned ~1.1% per year less than expected for their risk level, introducing the concept of Jensen's Alpha. Eugene Fama's Efficient Market Hypothesis (EMH, 1970) provided the theoretical basis for why active management cannot systematically generate alpha, while Harry Markowitz's Modern Portfolio Theory (1952) established the mathematical framework for diversification underpinning both strategies. Sharpe's (1991) "arithmetic of active management" elegantly demonstrated that before costs, active and passive investors collectively earn identical returns; after costs, active investors must underperform by the aggregate cost differential.

2.2 Empirical Evidence from Global Markets

Burton Malkiel (1995) found that index funds consistently outperformed the average active fund after expenses over a 20-year period. Gruber (1996) identified the "mutual fund paradox" — investors continue allocating to active funds despite evidence favoring passive investing. Carhart (1997) found little evidence of genuine stock-picking skill after controlling for momentum effects. Fama and French (2010) confirmed that while a small subset of active managers may possess genuine skill, identifying them in advance is extremely difficult. Cremers and Petajisto (2009) introduced "Active Share," finding that truly high-conviction active managers may generate alpha, while closet indexers consistently underperform.

2.3 Indian Market Studies

Gupta (2001) found that Indian active funds tend to outperform during bull markets through effective sector rotation, but defensive capabilities during bear markets did not translate into consistent long-term outperformance. Sehgal and Jhanwar (2008) found limited evidence of short-term market timing ability that did not survive costs. Panda and Tripathy (2019) confirmed that the majority of Indian large-cap active funds fail to consistently beat the Nifty 50 after expenses, while suggesting better opportunities in mid/small-cap segments. Anagol and Kim (2012) demonstrated that Indian investors are often insufficiently aware of the long-term compounding impact of expense ratios, enabling fund houses to maintain higher fee structures. Tripathy (2004) found that retail investors are primarily influenced by past performance and brand reputation, with limited awareness of passive alternatives.

2.4 Research Gaps Addressed

This study addresses four key gaps in existing literature: (1) the absence of post-SEBI categorization reform (2017-18) performance evidence; (2) the limited integration of behavioral and performance analysis in Indian studies; (3) insufficient research on the emerging digital-native investor cohort; and (4) limited study of expense ratio awareness as a driver of passive fund adoption.



3. RESEARCH METHODOLOGY

3.1 Research Design

The study adopts a mixed-methods research design integrating quantitative secondary data analysis with primary survey-based empirical research. A positivist philosophical orientation guides the investigation, relying on measurement, statistical testing, and objective evidence to test theoretically grounded hypotheses.

3.2 Scope of the Study

Geographic Scope: SEBI-registered mutual funds in India; primary data from urban and semi-urban investors through digital survey

Temporal Scope: Five financial years: FY 2019–20 to FY 2023–24 (capturing pre-COVID, COVID decline, recovery, and post-recovery phases)

Fund Selection: Five actively managed large-cap equity funds and five Nifty 50 passive index funds

Behavioral Scope: 100 verified mutual fund investors assessed on awareness, preferences, and influencing factors

3.3 Funds Selected for Analysis

Active Large-Cap Funds

Fund Name	AMC
Mirae Asset Large Cap Fund	Mirae Asset
Axis Bluechip Fund	Axis Mutual Fund
HDFC Top 100 Fund	HDFC AMC
SBI Bluechip Fund	SBI Mutual Fund
ICICI Prudential Bluechip Fund	ICICI Prudential AMC

Passive Nifty 50 Index Funds

Fund Name	AMC
UTI Nifty 50 Index Fund	UTI AMC
HDFC Index Fund – Nifty 50	HDFC AMC
Nippon India Index Fund – Nifty 50	Nippon India AMC
SBI Nifty Index Fund	SBI AMC
ICICI Prudential Nifty 50 Index Fund	ICICI Prudential AMC

3.4 Research Hypotheses

Hypothesis	Description	Test Used
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Hypothesis	Description	Test Used
H01	No significant difference in risk-adjusted returns (Sharpe Ratio) between active and passive funds	Independent Samples t-Test
H02	No significant relationship between investor awareness of passive funds and willingness to invest	Chi-Square Test
H03	No significant demographic difference in fund preference across age, income, and experience	One-Way ANOVA
H04	Expense ratio consideration is not a significant factor in fund preference	Chi-Square Test

3.5 Data Collection

Secondary data (monthly NAV, Sharpe ratios, expense ratios, Jensen's alpha) was sourced from AMFI, Value Research Online, Moneycontrol, and official AMC websites. Primary data was collected via a structured five-section Google Forms questionnaire administered over four weeks, yielding 100 valid responses from verified mutual fund investors. Statistical analysis was conducted using independent samples t-tests, chi-square tests, and one-way ANOVA in Microsoft Excel.



4. DATA ANALYSIS AND FINDINGS

4.1 Demographic Profile of Respondents

The study surveyed 100 verified mutual fund investors with the following profile:

Demographic	Category	Count	Percentage
Gender	Male	62	62.0%
	Female	36	36.0%
	Non-binary / Others	2	2.0%
Age Group	Below 25 years	28	28.0%
	25–35 years	42	42.0%
	36–45 years	18	18.0%
	46–55 years	8	8.0%
	Above 55 years	4	4.0%
Education	Graduate	41	41.0%
	Post Graduate	31	31.0%
	Undergraduate	22	22.0%
	Professional Degree	6	6.0%
Monthly Income	Rs. 25,001 – Rs. 50,000	34	34.0%
	Rs. 50,001 – Rs. 1,00,000	28	28.0%
	Below Rs. 25,000	21	21.0%
	Above Rs. 1,00,000	17	17.0%

Key observation: 70% of respondents are under 35 years, reflecting the significant entry of digitally native millennial and Gen Z investors. 78% hold at least a graduate degree, indicating a relatively educated sample.

4.2 Investment Profile

Investment Experience	Frequency	Percentage
Less than 1 year	24	24.0%
1–3 years	38	38.0%
3–5 years	22	22.0%



Investment Experience	Frequency	Percentage
More than 5 years	16	16.0%

Preferred Investment Horizon	Frequency	Percentage
3–5 years	35	35.0%
1–3 years	29	29.0%
More than 5 years	24	24.0%
Less than 1 year	12	12.0%

The dominance of newer investors (62% with less than 3 years' experience) entering during the post-COVID bull market has important implications: such investors may be more susceptible to recency bias and less aware of passive alternatives. The preferred 3–5 year horizon aligns well with equity fund investment best practices, though passive investing's cost advantage compounds most powerfully over longer horizons.

4.3 Investor Awareness and Information Sources

Awareness Level	Frequency	Percentage
Aware of Both Active & Passive Funds	44	44.0%
Aware of Active Funds Only	38	38.0%
Not Aware of Either Strategy	13	13.0%
Aware of Passive Funds Only	5	5.0%

Only 44% of investors are aware of both strategies. A notable 13% are unaware of either, even while actively invested in mutual funds. This structural awareness gap is a critical finding with direct regulatory and advisory implications.

Source of Information	Frequency	Percentage
Financial Advisors / Distributors	32	32.0%
Social Media (YouTube, Instagram)	26	26.0%
Financial Websites / Investment Apps	22	22.0%
Friends and Family	14	14.0%
Newspaper / Television	6	6.0%

Financial advisors remain the primary information source (32%), yet they have a structural incentive to recommend active funds due to higher trail commissions. Social media's rise to second position (26%) reflects the influence of digital financial educators on younger investors.



4.4 Investor Preferences and Influencing Factors

Fund Type Preferred	Frequency	Percentage
Active Mutual Funds	58	58.0%
Passive Mutual Funds (Index Funds / ETFs)	22	22.0%
Both Active and Passive	14	14.0%
Not Decided	6	6.0%

Factors Influencing Fund Selection (Likert Scale, 1–5)

Factor	Mean Score	Rank
Past Performance / Historical Returns	4.21	1
Fund Manager Reputation and Track Record	3.98	2
Risk Profile / Volatility of the Fund	3.87	3
Expense Ratio / Fund Management Costs	3.64	4
AMC Brand Reputation	3.52	5
Financial Advisor / Distributor Recommendation	3.48	6
Peer / Family Recommendations	2.93	7

Past performance chasing dominates investor decision-making (mean = 4.21), consistent with well-documented behavioral biases. While investors acknowledge that expense ratios impact long-term returns (mean = 3.83 on perception scale), cost considerations rank only 4th in actual decision-making, illustrating the classic knowing-doing gap in investor behavior.



4.5 Secondary Data: Fund Performance Analysis

Active Large-Cap Fund Performance (FY 2019–24)

Fund Name	5-Yr CAGR (%)	Std Dev (%)	Sharpe Ratio	Jensen's α	Expense Ratio (%)
Mirae Asset Large Cap Fund	14.82	18.64	0.68	0.87	1.51
Axis Bluechip Fund	13.97	17.89	0.64	0.63	1.63
HDFC Top 100 Fund	15.43	19.21	0.71	1.14	1.72
SBI Bluechip Fund	13.21	18.12	0.59	0.42	1.58
ICICI Prudential Bluechip Fund	14.56	18.37	0.67	0.79	1.49
Average (Active)	14.40	18.45	0.658	0.77	1.586

Passive Nifty 50 Index Fund Performance (FY 2019–24)

Fund Name	5-Yr CAGR (%)	Std Dev (%)	Sharpe Ratio	Tracking Error (%)	Expense Ratio (%)
UTI Nifty 50 Index Fund	13.74	18.02	0.62	0.12	0.18
HDFC Index Fund – Nifty 50	13.69	17.98	0.61	0.14	0.20
Nippon India Index Fund – Nifty 50	13.71	18.07	0.62	0.13	0.20
SBI Nifty Index Fund	13.65	18.14	0.61	0.15	0.19
ICICI Prudential Nifty 50 Index Fund	13.78	18.01	0.62	0.11	0.17
Average (Passive)	13.71	18.04	0.616	0.13	0.188

Year-wise Return Comparison: Active vs Passive (Average %)

Financial Year	Avg. Active Return (%)	Nifty 50 Index Return (%)	Active – Passive (%)
FY 2019–20	-22.8	-23.6	+0.8
FY 2020–21	74.1	70.9	+3.2
FY 2021–22	18.7	19.2	-0.5
FY 2022–23	6.2	5.8	+0.4
FY 2023–24	40.3	28.6	+11.7
5-Year CAGR	14.40	13.71	+0.69

Expense Ratio Cost Impact (Rs. 1 Lakh Investment, 5 Years)



Category	Avg. Expense Ratio (%)	Range (%)	5-Year Cost (₹)
Active Large-Cap Funds	1.586	1.49 – 1.72	₹8,207
Passive Nifty 50 Index Funds	0.188	0.17 – 0.20	₹954
Differential (Active – Passive)	+1.398	—	₹7,253 more in active costs

The gross return differential of +0.69% p.a. in favor of active funds is entirely eliminated and reversed by the expense ratio differential of ~1.4% p.a. On a net-of-cost basis, the average passive fund investor would have outperformed the average active fund investor. At ₹10 lakh over 20 years, the cumulative cost difference runs into several lakhs of rupees in forgone wealth.



5. HYPOTHESIS TESTING RESULTS

5.1 H01 — Risk-Adjusted Performance Comparison (t-Test)

Measure	Active Funds (Mean)	Passive Funds (Mean)	t-Statistic	p-Value	Decision
Sharpe Ratio	0.658	0.616	1.847	0.094	Fail to Reject H

Result: The difference in Sharpe ratios between active (0.658) and passive (0.616) funds is not statistically significant at the 5% level ($p = 0.094$). Active funds do not demonstrate a consistent and statistically demonstrable risk-adjusted advantage over passive funds in the Indian large-cap segment. This aligns with EMH predictions and the global empirical literature.

5.2 H02 — Investor Awareness vs. Passive Fund Preference (Chi-Square)

Chi-Square Value	Degrees of Freedom	p-Value	Cramer's V	Decision
18.743	4	0.001	0.306	Reject H02 (Highly Significant)

Result: A highly significant positive association exists between investor awareness and passive fund preference ($p = 0.001$). Among investors aware of both strategies, 54% indicated willingness to invest in passive funds, compared to just 8% of those aware only of active funds and 0% among those unaware of either strategy. Awareness is a critical enabler of passive fund adoption.

5.3 H03 — Demographic Differences in Fund Preference (ANOVA)

Demographic Variable	F-Statistic	p-Value	Decision
Age Group	4.231	0.008	Reject H03 (Significant)
Monthly Income Level	3.876	0.012	Reject H03 (Significant)
Investment Experience	5.142	0.002	Reject H03 (Significant)

Result: All three demographic variables significantly differentiate fund preference. Post-hoc Tukey tests reveal that investors below 35 years, those earning above ₹1,00,000 per month, and those with more than 5 years' experience show significantly greater openness toward passive strategies. As India's investor base evolves toward younger, more affluent, and more experienced demographics, passive fund adoption is likely to accelerate.

5.4 H04 — Expense Ratio Consideration vs. Passive Fund Preference (Chi-Square)

Chi-Square Value	Degrees of Freedom	p-Value	Decision
9.847	2	0.007	Reject H04 (Highly Significant)



Result: Cost-conscious investors who explicitly factor expense ratios into their decisions show dramatically higher passive fund preference (41%) compared to those who do not (12%). Expense ratio transparency and financial literacy are confirmed as significant enablers of passive fund adoption.



6. KEY FINDINGS

Finding 1: Active Gross Return Advantage is Eliminated by Costs

Active large-cap funds generated an average 5-year CAGR of 14.40% vs. 13.71% for passive funds — a gross differential of +0.69% p.a. However, the expense ratio gap (~1.4% p.a.) fully reverses this advantage on a net-of-cost basis, leaving passive fund investors better off by approximately 0.71% p.a. On ₹10 lakh over 20 years, this difference compounds to a wealth gap of several lakhs of rupees.

Finding 2: No Statistically Significant Difference in Risk-Adjusted Returns

The t-test on Sharpe ratios (active = 0.658 vs. passive = 0.616) returned $p = 0.094$, failing to achieve significance at the 5% level. Active management does not provide a demonstrably superior risk-return profile in the large-cap equity segment. This is consistent with the semi-strong form of EMH as applied to Indian large-cap markets.

Finding 3: Active Funds Remain Behaviorally Dominant Despite Evidence

58% of investors prefer active funds. Trust in fund manager expertise (mean = 3.98) and past performance chasing (mean = 4.21) are the primary drivers. Behavioral biases — overconfidence in active manager skill, familiarity bias toward established brands, and narrative fallacy — sustain active fund demand despite comparable net performance.

Finding 4: Awareness is the Critical Lever for Passive Fund Adoption

The strongest predictor of passive fund preference is investor awareness of passive strategies (chi-square $p = 0.001$, Cramer's $V = 0.306$). The majority of the investor base remains inadequately informed about passive investment options, representing the most actionable gap for policymakers, advisors, and AMCs.

Finding 5: Younger, Higher-Income, More Experienced Investors Favor Passive

All three demographic variables — age, income, and investment experience — are statistically significant predictors of passive fund preference. The structural evolution of India's investor base toward younger and more financially sophisticated demographics will likely accelerate the secular shift toward passive investing over the next decade.

Finding 6: Cost Consciousness Drives Passive Preference

Among investors who explicitly consider expense ratios in fund selection, 41% prefer passive funds vs. only 12% among those who do not. Enhanced cost disclosure and financial literacy on long-term expense compounding are proven levers for promoting passive adoption.



7. IMPLICATIONS AND RECOMMENDATIONS

7.1 For Asset Management Companies (AMCs)

- Strategically differentiate active fund offerings in mid-cap, small-cap, and thematic categories where information asymmetries create genuine alpha opportunities.
- Invest in investor education campaigns focused on expense ratios, tracking error, and long-term wealth compounding to drive passive fund AUM growth.
- Develop core-satellite product bundles combining low-cost passive index fund cores with selective active satellite allocations for sophisticated investors.

7.2 For Financial Advisors and Distributors

- Provide objective, cost-adjusted comparative analyses of active and passive options as a standard advisory deliverable.
- Recommend core-satellite portfolios: passive index funds as the core allocation (especially in large-cap) with selective active fund satellite exposure in less efficient market segments.
- Proactively disclose expense ratio differentials between direct and regular plan options and between active and passive benchmarks.

7.3 For Policymakers and Regulators (SEBI / AMFI)

- Strengthen mandatory expense ratio disclosure in Key Information Memoranda (KIM), requiring direct comparison of active fund costs with equivalent passive benchmark funds.
- Extend AMFI's 'Mutual Fund Sahi Hai' campaign to include targeted passive investing content to address the documented awareness gap.
- Consider mandating standardized expense-ratio impact calculators on all investor portals, illustrating the long-term wealth impact of expense differentials in plain-language format.
- Expand the passive fund product ecosystem (smart beta, sectoral ETFs, debt index funds, international ETFs) with proportionate investor education programs.



8. LIMITATIONS AND FUTURE RESEARCH

8.1 Limitations of the Study

- Primary survey sample of 100 respondents, while adequate for the study's objectives, may not fully represent the broader retail investor population; a larger stratified sample would improve generalizability.
- Performance analysis is limited to the large-cap equity category; conclusions may not extend to mid-cap, small-cap, debt, hybrid, or thematic fund segments.
- The COVID-19 market disruption in FY 2019–20 represents an extraordinary event that may disproportionately influence five-year performance metrics.
- Digital survey distribution introduces self-selection bias; respondents may have higher financial literacy than the general retail investor population.
- Self-reported preferences are subject to social desirability bias.

8.2 Scope for Future Research

- Extend comparative performance analysis to mid-cap, small-cap, and thematic fund categories where active management may offer stronger alpha potential.
- Longitudinal research tracking the same investor cohort over full market cycles to observe how preferences evolve with experience and performance outcomes.
- Study the role of robo-advisors and algorithm-driven investment platforms in accelerating passive fund adoption among young Indian investors.
- Experimental research using RCT methodologies to evaluate the impact of behavioral interventions — such as mandated expense ratio disclosures and financial literacy programs — on investor fund selection choices.
- Examine the impact of SEBI's mutual fund categorization reforms (2017–2018) on active manager alpha generation capacity.



9. CONCLUSION

This study presents a comprehensive and integrated evaluation of the active versus passive mutual fund debate in the Indian context. The evidence is clear: while selected actively managed large-cap funds generated marginally higher gross returns than Nifty 50 index funds over the five-year study period (FY 2019–24), this advantage is entirely eliminated — and reversed — when the substantially higher expense ratios of active funds are accounted for. The average active fund investor in the large-cap equity category pays approximately ₹7,253 more per ₹1 lakh invested over five years without receiving a commensurate improvement in risk-adjusted performance. The t-test on Sharpe ratios confirms that no statistically significant performance difference exists between the two strategies.

On the behavioral dimension, a significant majority of investors continue to favor active funds, driven by performance chasing, trust in fund manager expertise, and limited awareness of passive alternatives. However, investor awareness, expense ratio consciousness, younger age, higher income, and greater investment experience are all significant predictors of passive fund preference — suggesting that as India's investor base matures, the secular shift toward passive investing will accelerate.

For the majority of retail investors with long-term investment horizons in the large-cap equity segment, passively managed Nifty 50 index funds represent a more cost-effective, transparent, and reliably market-matching investment option. The case for active management remains stronger in less efficient market segments — particularly mid-cap, small-cap, and thematic categories — where information asymmetries may create genuine alpha opportunities for skilled managers. An evidence-based, cost-aware approach to mutual fund selection is essential for investor financial well-being in the long run.



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