

CONSISTENCY IN INVESTMENT STYLE AND PERFORMANCE OF INDIAN GROWTH MUTUAL FUNDS

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ABSTRACT

In this study, we examine investment style, style consistency and its relationship with risk-adjusted performance of open-ended, growth-oriented mutual funds (MFs) using a sample of 228 funds across 12 categories over a period from January 2016 to December 2023. Daily closing NAV of different schemes have been used to calculate the returns from the fund schemes. Our findings indicate that higher style consistency leads to better risk-adjusted performance and investment style and style consistency leads to better risk-adjusted performance.

Keywords: Mutual funds, Performance evaluation, Style analysis, Style consistency, Growth funds

Introduction

A mutual fund is a pool of money managed by a professional fund manager. It is a trust that collects money from a number of investors who share a common investment objective and invests the same in equities, bonds, money market instruments and/or other securities. And the income/gains generated from this collective investment is distributed proportionately amongst the investors after deducting applicable expenses and levies, by calculating a scheme's "Net Asset Value" or NAV. The NAV per unit represents the market value of all the units in a mutual fund scheme on a given day, net of all expenses and liabilities plus income accrued, dividend by the outstanding number of units in the scheme (AMFI, n.d.).

Mutual funds are ideal for investors who either lack large sums for investment, or for those who neither have the inclination nor the time to research the market, yet want to grow their wealth. The money collected in mutual funds is invested by professional fund managers in line with the scheme's stated objective. The fees charged by mutual funds are regulated and are subject to certain limits specified by the Securities and Exchange Board of India (SEBI).

An investor's or money manager's investment style refers to the process and mindset they use while choosing assets for a portfolio. Investment style is determined by a number of variables, but it usually revolves on elements like market capitalization, growth versus value orientation, and risk tolerance. A mutual fund's investment approach aids in establishing expectations regarding risk and potential performance. Institutional managers utilise investment style as a key tool in their marketing and promotion of the fund to investors who are seeking a particular kind of market exposure.

With institutional investment managers providing investors with a wide range of managed fund strategies for different portfolio allocations, investors can choose from a wide variety of investing approaches. First, risk can be used to generically categorise institutional investment approaches. A common differentiator used by mutual fund firms to sell to investors is risk and the fit of the risk allocation for investors. When choosing an investment style, investors usually start by deciding how much risk they are willing to take on high, moderate, or low risk. Investment managers can extend the range of investment options available to investors by providing both active and passive investment methods within these categories. Investing style is another term for the kinds of investments that make up a portfolio, in addition to risk tolerance. An investment style could be determined, for example, by a stock's growth vs value characteristics or by its market capitalization (large, mid, or small-cap). The three main categories of investment styles are growth versus value investing, small versus large cap enterprises and active versus passive management.

The operation of mutual funds in India is substantially the same as it is in the US. Similar to their American equivalents, mutual funds in India aggregate the contributions of several investors and allocate them across diverse securities contingent on the fund's objectives. Similar to U.S. funds, a variety of fund kinds are offered for purchase based on the requirements and risk tolerance of the individual investor. Similar to American funds, mutual funds provide automated diversification, liquidity, and expert management, which makes them a popular investment option in India. SEBI, the Securities and Exchange Board of India, oversees the regulation of mutual funds in India. There are strict regulations in India regarding who can start a mutual

fund, how the fund is run, and how much capital the fund needs to keep on hand. Small and individual investors can access professionally managed portfolios of stocks, bonds, and other securities through mutual funds. As a result, each shareholder shares proportionately in the fund's profits or losses. Mutual funds make numerous investments in a wide range of assets, and their performance is typically measured by the shift in the fund's overall market capitalization, which is determined by the cumulative performance of its constituent stocks.

Scholarly studies on MF performance evaluation have Jensen's alpha to analyse the selecting ability. Moreover, a wealth of literature demonstrates how the investment strategy of a fund influences its success. This research adds to the body of knowledge on the performance assessment of growth mutual funds by examining the hitherto understudied relationship between the risk-adjusted performance of Indian growth MFs and their investment style and consistency. The study distinguishes itself from a large body of research in this field by demonstrating that consistent behaviour style produces greater risk-adjusted returns and that selection ability is not rewarded. The study's conclusions are divided into two categories. First, a significant amount of Indian growth mutual funds deviates from the declared investment approach. Second, there is a positive correlation between improved risk-adjusted performance and a fund's adherence to investment style. As they wrap up this exercise, the authors explain why Indian growth mutual funds have underperformed and talk about the consequences of their research for regulators and the asset management sector.

Below is the arrangement of the remaining paper. Parts three and four provide an explanation of the methodology, sample, and data, respectively, while the second portion discusses pertinent literature for investment style analysis. Section five presents the findings and their corresponding conclusions. Section six offers the conclusion.

Literature review

A plethora of studies have delved into various facets of mutual fund performance evaluation, shedding light on nuanced aspects that impact investment decisions and market dynamics. (Angeline Kim Pei Chua, 2020) undertook a comprehensive investigation into the clandestine realm of style drift within active mutual funds, revealing its underlying motives, ramifications on fund performance, and implications for market integrity. Their findings underscored the inclination of large funds towards style drift, driven by the pursuit of maximizing compensation, albeit at the expense of diminished performance. Similarly, (Antonella Basso, 2001) employed data envelopment analysis (DEA) to gauge mutual fund performance, introducing novel indexes encompassing various risk indicators and costs. They highlighted the efficacy of DEA in complementing traditional evaluation metrics. (Ariel Gu, 2021) delved into prospect theory's influence on mutual fund flows, unveiling investor's penchant for portfolios with favourable return distributions. (Sensoy, 2009) explored the phenomenon of self-designated benchmark indexes in the mutual fund landscape, revealing strategic behaviour by fund managers driven by incentive structures. Another facet, scrutinized by (Bijja Srinivas, 2020), focused on the impact of COVID-19 on mutual fund performance, underscoring disruptions in asset management due to the pandemic. (Cinzia Daraio, 2006) proposed a robust non-parametric approach for mutual fund performance evaluation, providing insights beneficial for financial analysis and regulatory oversight. Various studies, including those by (Ching-Hui Chang, 2010), (Don U.A. Galagedera, 2020), and (David Moreno, 2009), introduced innovative methodologies and insights into fund performance appraisal, addressing diverse dimensions such as turnover effects, coskewness management, and active peer benchmarks. Moreover, recent inquiries by (Ioana-Stefania Popescu, 2021) and (Tsolas, 2014) have focused on sustainability metrics and precious metal funds, respectively, enriching the discourse on evolving paradigms in investment evaluation. Meanwhile, (Gaurav Shreekanth, 2020) assessed the comparative performance of actively managed and passive funds in India, challenging conventional wisdom on fund selection. Additionally, studies by (Kehlub Wang, 2010) and (Chang, 2004) introduced neural network classifiers and minimum convex input requirement set approaches, underscoring the role of innovative methodologies in enhancing performance assessment. Notably, the quest for stability in performance rankings, as explored by (Pilar Grau-Carles, 2017), and the emergence of carbon-neutral investments, as discussed by (Xiangfeng Ji, 2021), reflect contemporary trends shaping the mutual fund landscape. Furthermore, studies by (Xiujuan Zhao, 2011) and (Murthi, 2001) elucidated the significance of endogenous benchmarks and non-parametric approaches in refining performance evaluation frameworks. Collectively, these studies contribute to a nuanced understanding of mutual fund performance, offering valuable insights for investors, fund managers, and regulatory authorities navigating the intricacies of financial markets.

Conceptual framework

The study aims to assess the investing styles of growth mutual funds in India and investigate the correlation between style consistency and risk-adjusted fund performance. More specifically, style consistency is measured using Sharpe's RBSA methodology. Moreover, risk-adjusted returns for each fund were estimated using single and multifactor models. Finally, in accordance with previous research in the field, (Keith C. Brown, 2009) the Pearson correlation coefficient is calculated to investigate the connection between the risk-adjusted returns of funds and the consistency of investing styles. The following asset class factor model (Sharpe, 1992) is estimated via Sharpe's RBSA framework.

$$R_{i,t} = \sum b_{ip} R_{p,t} + e_{i,t}$$

Where b_{ip} denotes the fund's exposure to asset class p , $R_{p,t}$ is the asset class p 's total return, and $e_{i,t}$ denotes the portion of the fund return that cannot be explained. By minimising the variance of the error term ($e_{i,t}$) and enforcing the following restrictions, the average exposure to each index, b_{ip} , for every fund over a certain observation period may be estimated:

$$\sum b_{ip} = 1 \text{ \& } 0 \leq b_{ip} \leq 1$$

We have separated our sample of 228 Indian growth MFs into four different groups for this investigation. For each mutual fund, quadratic programming was used to estimate the investing style coefficients and R-square by taking into account relevant passive portfolios. The relevant passive portfolios change for each cluster and fund category as our clusters are based on risk criteria such market capitalization, adaptive equity funds, specialised funds, and wealth creation funds.

Additionally, for each fund, we estimated risk-adjusted returns (also known as abnormal returns or Jensen's alpha) using (Andrew Clare, 2019) single-factor and multi-factor models. In this way, risk-adjusted returns are estimated by the models:

$$R_{pt} - R_{ft} = \alpha_{1p} + \beta_{1p} \times ERM_t + \varepsilon_{pt}$$

Where R_{ft} is the risk-free return, ERM_t is the excess return (above R_{ft}), β_{1p} is the sensitivity to excess market return for excess returns of a fund p, and ε_{pt} is a white noise error term. Additionally, R_{pt} is the annualised return at time t for MF p.

The variables of interest are R-square calculated using Sharpe's quadratic programming and computed using single-factor and multi-factor models in order to investigate the link between investing style consistency and risk-adjusted performance of mutual funds. All of the fund's R-squares and α_{1p} Pearson correlation coefficients are computed and each fund category's average correlation coefficient is determined.

Sample and data

The 12 mutually exclusive and collectively exhaustive categories of open-ended growth securities that are accessible for investment have been announced by the Mutual Funds Regulation Authority of India, or Securities and Exchange Board of India (SEBI). The notification must be followed by the fund managers, who must categorise their fund into only one of the 12 groups. As such, different investing techniques that align with SEBI's definition of the fund category allow us to designate one passive portfolio as the benchmark index for assessing the performance of funds within a category. Fund managers are limited in their ability to stray from the declared investment objective or fund category definition due to SEBI's prescription at such a disaggregated level.

There are 228 open-ended growth Indian mutual funds (MFs) in our sample out of the 418 total as of November 2023 (SEBI, n.d.). As of November 2023, the number of funds in each category, the benchmark index for each category, and the total number of funds examined for our analysis are all shown in the Table 1.

Table 1 Growth fund categories, benchmarks, number of funds as on November 2023 and number of funds selected in the sample

S.No.	Fund Category	Benchmark	Number of funds as on November 2023	Number of funds in the sample
1	Multi Cap Fund	Nifty 500 Multicap 50:25:25	23	5
2	Large Cap Fund	Nifty 100	30	22
3	Large & Mid Cap Fund	Nifty Large Midcap 250	26	20
4	Mid Cap Fund	Nifty Midcap 150	29	18
5	Small Cap Fund	Nifty Smallcap 250	26	13
6	Dividend Yield Fund	Nifty 500	9	4
7	Value Fund	Nifty 500	20	11
8	Contra Fund	Nifty 500	3	3
9	Focused Fund	Nifty 500	27	13
10	Sectoral/Thematic Fund	Based on Sectors*	145	69
11	ELSS	Nifty 500	42	31
12	Flexi Cap Fund	Nifty 500	38	19
Total			418	228

* - Benchmark indices depends upon specific sectors and themes.

A tradeoff exists between the total amount of funds included in the study and its duration. Stated differently, fewer funds are included in the sample as the study's duration lengthens. In order to provide the greatest amount of funding possible for the project, we have chosen the years 2016-2023. As a result, we were able to obtain a sample size for the analysis of 228 funds, or roughly 55% of the total AUM of the 418 funds.

In order to detect and measure funds' investment style that is straying into a nearby fund category, we have also established four clusters based on fund categories. Market capitalization, Adaptive equity funds, Specialized funds, and Wealth creation funds are the names we have given these clusters. The market capitalization comprises of largecap funds, midcap funds, small cap funds and large & midcap funds. The adaptive equity funds comprises of flexicap funds, value funds and contra funds. Sectoral & thematic funds, Dividend yield funds and focus funds constitute the specialized funds cluster. The wealth creation funds cluster includes ELSS funds and multicap funds. As mentioned previously, we estimate investing style coefficients and

R-square by using Sharpe's quadratic programming with six passive portfolios (style indices). For each cluster, five distinct passive portfolios (style indices) are examined; the Nifty 50 index is used as a stand-in for market performance since it offers a thorough representation of the Indian equities market. It's a total return index used to monitor a stock portfolio's performance. For this sample of funds, RBSA is done on an annualised return basis from January 2016 to December 2023. Data for each growth category index is provided by AMFI, NSE India website. Information on the four clusters and passive portfolios used for style analysis is given in Table 2.

Table 2 Clusters, fund categories and indices for style analysis

Cluster	Fund Category	Passive Portfolios (Indices for style analysis)
Market Capitalization	Large Cap Fund, Mid Cap Fund Small Cap Fund, Large & Mid Cap Fund	Nifty 100, Nifty Large Mid Cap 250, Nifty Mid Cap 150, Nifty Small Cap 250, Nifty Total Market, Nifty 50
Adaptive Equity Funds	Flexi Cap Fund, Value Fund Contra Fund	Nifty 500, Nifty 100, Nifty Small Cap 250, Nifty Mid Cap 150, Nifty Large Mid Cap 250, Nifty 50
Specialized Funds	Sectoral & Thematic Fund Dividend Yield Fund Focus Fund	Nifty 500, Nifty Financial Services, Nifty IT, Nifty Pharma, Nifty FMCG, Nifty 50
Wealth Creation Funds	ELSS Fund Multi Cap Fund	Nifty 500, Nifty Multi Cap 50:25:25, Nifty 200, Nifty 100, Nifty Large Mid Cap 250, Nifty 50

Results and analysis

As previously mentioned, the asset class model ([Sharpe, 1992](#)) assesses securities selection skill as [1-R-square], style consistency as the model's R-square, and investing style as parameter estimates. For both single and multi-factor models, the risk-adjusted returns for the funds are represented by Jensen's alphas. Style consistency (R-square) and risk-adjusted performance (Jensen's Alpha) are shown in the Table 3 for each category.

Table 3 Growth MF category-wise style consistency and performance

Fund categories	No. of funds	Style Consistency			Monthly Performance			Annualised Performance		
		Minimum R-square	Maximum R-square	Median R-square	Minimum Jensen's alpha	Maximum Jensen's alpha	Median Jensen's alpha	Minimum Jensen's alpha	Maximum Jensen's alpha	Median Jensen's alpha
Market Capitalization										
Large Cap Funds	22	0.0036	0.0085	0.0065	-0.0020	0.0026	0.0013	-0.0262	0.0352	0.0177
Mid Cap Funds	18	0.0110	0.0257	0.0172	-0.0015	0.0034	0.0005	-0.0217	0.0464	0.0067
Small Cap Funds	13	0.0068	0.0260	0.0173	0.0006	0.0077	0.0044	0.0077	0.1061	0.0593
Large & Mid Cap Funds	20	0.0076	0.0140	0.0105	-0.0017	0.0155	0.0012	-0.0225	0.0410	0.0136
Adaptive Equity Funds										
Flexi Cap Funds	19	0.0036	0.0163	0.0086	-0.0026	0.0084	0.0014	-0.0343	0.1120	0.0187
Value Funds	11	0.0049	0.0186	0.0084	-0.0006	0.0072	0.0021	-0.0080	0.1012	0.0282
Contra Funds	3	0.0091	0.0113	0.0095	0.0028	0.0045	0.0042	0.0378	0.0603	0.0568
Specialized Funds										
Sectoral & Thematic Funds	69	0.0017	0.0366	0.0076	-0.0117	0.0508	0.0034	-0.0368	0.1083	0.0388
Dividend Yield Funds	4	0.0070	0.0106	0.0087	0.0013	0.0039	0.0026	0.0169	0.0531	0.0347
Focus Funds	13	0.0057	0.0121	0.0082	-0.0003	0.0039	0.0009	-0.0037	0.05310	0.0125
Wealth Creation Funds										
ELSS Funds	31	0.0040	0.0829	0.0082	0.0006	0.0120	0.0052	0.0081	0.1648	0.0687
Multi Cap Funds	5	0.0096	0.0195	0.0106	0.0005	0.0045	0.0010	0.0067	0.0620	0.0139

Jensen's alphas for both single-factor and multi-factor models are included in the Table 3 along with the Pearson correlation coefficients between the R-square for each fund type. Remarkably, for all 12 of them, there is a positive connection between R-square and both the single-factor and multi-factor model alphas. Furthermore, the multi-factor models' correlation coefficient for the 8 categories is higher than the single-factor models' correlation coefficient ([Mayank Patel, 2023](#)). The idea that a style's consistency increases the risk-adjusted return is supported by strong correlation coefficients. Put another way, on a risk-adjusted basis, style consistent funds beat style inconsistent ones.

Table 4 Relationship Between style consistency and risk-adjusted returns

S.No.	Cluster	Fund Categories	Pearson Correlation coefficient of R-Square with	
			Single-factor Alpha	Multi-factor Alpha
1	Market Capitalization	Small Cap Fund	0.92301	0.93326
2		Large Cap Fund	0.59412	0.55116
3		Large & Mid Cap Fund	0.64897	0.69421
4		Mid Cap Fund	0.61734	0.66190
5	Adaptive Equity Funds	Contra Fund	0.41221	0.36361
6		Flexi Cap Fund	0.45312	0.87576
7		Value Fund	0.96480	0.94276
8	Specialized Funds	Dividend Yield Fund	0.99530	0.90773
9		Focused Fund	0.86468	0.91152
10		Sectoral/Thematic Fund	0.24799	0.25193
11	Wealth Creation Funds	ELSS	0.20246	0.23810
12		Multi Cap Fund	0.85947	0.86695

The following are the main conclusions from Tables 3 and 4. The risk-adjusted performance of funds is not enhanced by the security selection practises of Indian growth fund managers. This runs counter to the results, which show that the risk-adjusted performance of Indian equity mutual funds is enhanced by a certain level of securities picking competence. The study also demonstrates that increased stylistic consistency increases risk-adjusted return. In other words, our research suggests that investors would benefit more if Indian growth funds continued to keep a consistent strategy. Additionally, the success of Indian growth mutual funds is significantly impacted by the investment strategy and consistency of the fund.

Conclusion

The selection of securities, timing, performance persistency, and investing style analysis have all been the focus of previous academic study on the performance evaluation of growth or equity mutual funds. Nevertheless, one of the most fascinating topics in the professional asset management sector is still identifying an investment fund's style and investigating how that style affects fund performance. popular techniques for examining the investment style of funds include HBSA and RBSA (Mayank Patel, 2023). Although academics agree that an investment fund's style affects how well it performs, little is known about how consistent an investment style is in relation to the anomalous returns of the funds. There is still a lack of research on style analysis for growth MFs, despite notable earlier studies on investing style analysis and style consistency for equity MFs.

This research looks at the investing style, consistency of style, and correlation between style consistency and risk-adjusted returns for a large sample of 228 growth funds from 12 distinct style groups, which covers the whole growth mutual fund market in India. Our findings demonstrate the significant style drift—a departure from the declared investment style—in the expanding mutual fund business in India. Although fund managers seem to be straying from the investment strategy in an attempt to improve risk-adjusted returns, fund performance is actually quite bad. We offer proof that a key instrument for assessing a fund's success is its consistent investment style. The asset class model's R-square, a straightforward metric for measuring investment style consistency, allows us to demonstrate the substantial positive linear association between investment style consistency and risk-adjusted fund returns in India. Within a specific investment style category, funds with high consistency tend to yield better risk-adjusted returns. Additionally, our findings imply that poorer risk-adjusted returns are caused by style drift, or inconsistency in style.

Our findings demonstrate the importance of consistency in investing as a talent for professional asset management. Performance reporting and investor communications from the fund should both use this ability. By evaluating this ability, AMC's will be better equipped to create relevant hiring, retention, and compensation plans for fund managers.

We show how investment style research can help find fund misclassifications. The regulatory framework in India categorises growth funds, the securities that are held in the portfolio, and the requirements for both periodic reporting. This gives fund managers some leeway to dress up and make sure their funds are categorised correctly. As we have shown in our analysis, categorising funds according to pre-defined investment style coefficients would guarantee that the funds stay true to their declared investing objective or style while still providing some flexibility for fund managers to exercise stock selection. Investors are less likely to invest in funds that do not meet their intended risk-return expectations if fund classification is done in this way. Prolonged periods of significant style discrepancy could potentially indicate a possible shift in a fund's risk profile. Although we have evaluated the linear link between risk-adjusted return and investing style consistency, we think there is still room to investigate the relationship between investment style consistency and the long-term performance persistence of funds using HBSA. To gain a deeper understanding of the style consistency and performance persistence of Indian growth MFs, recursive investment style analysis over an extended period of time would be beneficial. This analysis would measure the evolution of investment style drift, identify factors contributing to style drift, and examine the impact of style drift on fund

performance. Future studies could also look into the relationship between an AMC's governance procedures and the consistency of its funds' investment approach.

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