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From Bull Runs to Market Shocks Regime Dependent Performance of Quant Mutual Funds

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***Abstract*—Quantitative (quant) mutual funds use rule-based models, statistical signals and systematic risk controls to build portfolios. In India they have attracted large inflows since 2020, largely on the strength of exceptional trailing returns. Financial markets, however, do not behave uniformly. They move between distinct regimes (calm bull phases, turbulent corrections, sideways consolidation, and liquidity-driven rebounds), and each regime changes the volatility, correlation and return structure on which quantitative models depend. This paper examines how investors perceive the performance and volatility of quant mutual funds during regime shifts, and what determines their willingness to stay invested. It combines a review of the regime-switching, volatility-modelling, factor-investing and behavioral-finance literatures with a structured survey of 250 mutual fund investors. Descriptive statistics, one-sample t-tests, a chi-square test, one-way ANOVA and multiple regression are used. Investors overwhelmingly perceive quant funds as highly sensitive to regime change (mean 4.12 out of 5), yet understanding of the underlying models is weak and perceived transparency is low. Awareness and perceived transparency significantly raise the intention to remain invested, while perceived volatility lowers it. The paper closes with numbered findings and suggestions for investors, asset management companies (AMCs), distributors and regulators.**

***Index Terms*—quant mutual funds, regime shifts, volatility dynamics, factor investing, investor behavior, India**

I. INTRODUCTION

1.1 Background of the Study

Systematic investing has moved from a specialized institutional niche to a mainstream retail proposition. A quantitative mutual fund replaces or supplements discretionary stock selection with algorithms. These models score securities on valuation, momentum, quality, liquidity,

earnings revisions, sentiment and risk, and then construct and rebalance portfolios according to predefined rules. The promise is discipline: decisions are made by a model rather than by a fund manager influenced by fear, overconfidence or narrative. In India, this promise came at a time when the retail investing population was expanding rapidly through systematic investment plans (SIPs), digital platforms and social media. Several quant-oriented schemes then delivered trailing returns that were prominent in rankings, and investors, particularly younger and first-time investors, moved funds towards them.

Rule-based models are, however, only as robust as the environment in which they were calibrated. Financial markets are non-stationary. The statistical relationship between a signal and future returns can be strong in one phase and weak or reversed in another. Periods of low volatility and trending prices tend to reward momentum and trend-following signals. Sharp reversals, liquidity squeezes and macro shocks can turn the same signals into sources of loss. Economists describe such phases as regimes, and abrupt transitions between them as regime shifts. Because volatility itself clusters, rising in turbulent periods and falling in calm ones, the risk that a quant fund carries is not constant either.

The performance of quant funds therefore cannot be understood by looking only at point-to-point returns. A three-year return figure is an average over several regimes, and it says little about how the fund behaves when the regime changes. Investors who buy after a favorable regime has already delivered high returns may be exposed to the next transition without having understood the mechanics of the strategy. This paper attempts to decode that interaction between regime shifts, volatility dynamics and quant fund performance, and to study it through the eyes of the investors who bear the consequences.

1.2 Statement of the Problem

Although quant funds are marketed as disciplined and data-driven, retail investors often lack the technical background to evaluate the models, and disclosures are typically limited to broad descriptions of the investment framework. At the same time, performance rankings tend to emphasize trailing returns, which may over-represent the most favorable regime. This creates a three-part problem: (i) investors may underestimate regime-dependent volatility; (ii) the low transparency of model-driven strategies limits informed decision making; and (iii) behavioral reactions during drawdowns, such as panic redemption, can convert temporary volatility into permanent loss. There is limited survey-based evidence on how Indian investors perceive these issues, which motivates the present study.

1.3 Significance of the Study

The study is useful to several groups. Retail investors gain a clearer understanding of why quant fund returns can be uneven over time. Financial advisors and distributors can identify the knowledge gaps that need to be addressed before recommending such schemes. AMCs can see where disclosure and communication fall short of investor needs. Regulators can draw on the evidence when considering standards for the disclosure of systematic strategies. Academically,

the paper links the econometric literature on regime switching and volatility with the behavioral literature on investor decision making in an emerging market context.

1.4 Objectives of the Study

- To understand the concept of regime shifts and volatility dynamics and their relevance to quant mutual funds.
- To assess investors' awareness and perception of quant fund performance and volatility.
- To examine the relationship between investment experience and awareness of quant strategies.
- To identify the factors that influence investors' intention to remain invested during market corrections.
- To offer suggestions for investors, AMCs, advisors and regulators.

1.5 Hypotheses of the Study

- H01: There is no significant association between investment experience and awareness of quant fund strategies.
- H02: Investors' perception of quant fund sensitivity to regime change does not differ significantly from a neutral view.
- H03: Intention to continue investing during a prolonged correction does not differ significantly across investment experience groups.
- H04: Awareness, perceived transparency, perceived volatility, experience and income do not significantly predict the intention to remain invested.

II. REVIEW OF LITERATURE

This review draws on studies published between 2016 and 2026. It is organized around five themes: regime switching in markets and funds, volatility and liquidity fragility, factor and machine-learning investing, the evidence on quant fund performance, and investor behavior and financial literacy.

2.1 Regime Switching in Markets and Funds

Recent work confirms that markets move between identifiable states and that the behavior of investors and funds changes with them. Liu, Maheu and Song (2024) develop methods to identify and forecast bull and bear markets using multivariate returns, reflecting the continuing effort to detect market phases in real time. In the Indian context, Jindal, Bamba and Aggarwal (2024) fitted a three-state Markov regime-switching model to the Indian equity market and found that herding among investors appears in crash-like, extremely volatile regimes, while anti-herding appears in the high and low volatility regimes. This suggests that investor behavior, and not only asset prices, changes with the regime.

The same logic has been applied to funds. Apau, Moores-Pitt and Muzindutsi (2021) used a regime-switching framework to study the determinants of mutual fund performance in South Africa, treating fund performance as state-dependent rather than constant. Bissoondoyal-Bheenick, Brooks and Do (2023) study Australian superannuation funds with a Markov regime-switching approach and reported that larger funds change their asset allocation and risk-taking in periods of volatility, with the switching driven by equity market volatility. For Indian equity funds, Jeyaprakash, Balasubramanian and Maddikera (2025) analysed factor-risk shifting and found that changes in fund style can raise or lower returns depending on market conditions. Together, these studies indicate that fund performance has to be read conditionally on the prevailing regime.

2.2 Volatility, Liquidity and Fragility

Volatility is not merely a measure of risk; it interacts with liquidity and investor flows. Morris, Shim and Shin (2017) showed that asset managers hold cash and adjust their portfolios in anticipation of redemption pressure, which can amplify market moves. Goldstein, Jiang and Ng (2017) found that investor flows to corporate bond funds exhibit fragility, with outflows being more sensitive to bad performance in illiquid segments. Although these studies are not on equity quant funds specifically, they establish a general principle: when investors redeem in turbulent phases, funds are forced to trade at the worst time, and volatility becomes self-reinforcing.

For systematic strategies, the most direct evidence of regime dependence comes from momentum. Daniel and Moskowitz (2016) showed that momentum strategies can suffer infrequent but persistent crashes, which occur in panic states following market declines and when volatility is high, and which coincide with market rebounds. They also showed that these crashes are partly forecastable, and that a dynamic strategy based on forecasts of momentum's mean and variance can improve on a static one. The lesson for quant fund investors is that a strategy which performs well in trending, low-volatility markets may deliver its worst returns exactly when markets turn.

2.3 Factor Investing and Machine-Learning Models

The empirical foundation of quantitative investing has been examined critically in the last decade. Harvey, Liu and Zhu (2016) argued that the large number of published return factors raises the risk of false discoveries, and that statistical hurdles for new factors should be higher. Aghassi, Asness, Fattouche and Moskowitz (2023) responded to common criticisms of factor investing and discussed the evidence for and against factor premia. Ilmanen, Israel, Lee, Moskowitz and Thapar (2021) examined how factor premia vary over time using a century of evidence, showing that factor returns are not stable through history.

Machine learning has extended these ideas. Gu, Kelly and Xiu (2020) compared machine-learning methods for measuring asset risk premia and found that they can improve return prediction, while Israel, Kelly and Moskowitz (2020) discussed whether and how machines can learn finance, noting the challenges posed by noisy financial data and limited history. The

common message is that quantitative models can add value, but they rely on relationships estimated from finite samples that may not hold in a different regime.

2.4 Evidence on Quant Fund Performance

Direct evidence on quant funds is mixed. Miguel and Chen (2021) studied the performance persistence of quantitative actively managed US equity funds. They found that persistence comes mainly from poor performers and that reversals are significantly more frequent at the top of the performance distribution for quantitative funds than for non-quantitative funds, a result they interpreted as consistent with machines having less skill than humans. Karasiński (2023), in a doctoral study of a very large sample of investment funds over 2000 to 2020, found that differences between quantitative and qualitative funds vary by strategy and region, and that quantitative funds do not guarantee outperformance. Zhang, Peng, Zeng and Yang (2023) asked whether big data mutual funds outperform, extending the question to data-intensive management. These studies caution against the assumption that a systematic process ensures superior or stable results. The top-of-distribution reversals reported by Miguel and Chen (2021) are especially relevant to the Indian case, where investors have been drawn to funds because of extraordinary trailing returns.

2.5 Investor Behavior and Financial Literacy

Klapper and Lusardi (2020) reported that only about one in three adults worldwide is financially literate, and that women, poorer and less-educated respondents are more likely to have gaps in financial knowledge. They noted that low literacy exacerbates risks as increasingly complex products enter the market, a description that fits model-driven mutual funds. Kaiser, Lusardi, Menkhoff and Urban (2022) found that financial education affects financial knowledge and downstream behavior, which supports the role of education as a remedy.

In the Indian setting, Prabha and Radha (2026) found that systematic investment plans promote disciplined investing, reduce timing risk and contribute to wealth accumulation especially during volatile phases. This is relevant because most respondents in the present study invest through SIPs, which may soften but not remove regime risk.

2.6 Indian Context

India's mutual fund industry has expanded rapidly, and quant-oriented schemes have been among the beneficiaries of retail enthusiasm. A Value Research (2024) review of five quant schemes illustrates the regime dependence of returns: the Quant Small Cap fund returned 76.1% in 2020 and 91.7% in 2021 but 11.2% in 2022, a year in which its benchmark fell by 1%, and the same report noted regulatory suspicion of front-running at the fund house, showing that governance and trust are also part of the investor's risk assessment. Jindal et al. (2024) show that Indian investors' behavior shifts in extreme regimes, which reinforces the concern that retail reactions may amplify volatility.

2.7 Research Gap

The reviewed literature provides good evidence on regimes, on the time variation of factor premia, on the mixed record of quant funds, and on low financial literacy. What is scarce is survey-based evidence from an emerging market linking these strands: how much retail investors understand about regime-dependent risk in quant funds, how they judge the transparency of model-driven schemes, and which perceptions determine whether they stay invested during corrections. The present study addresses this gap.

III. RESEARCH METHODOLOGY

3.1 Research Design

The study uses a descriptive and analytical research design based on primary data collected through a structured questionnaire. The theoretical framework is drawn from secondary sources, namely the research articles, books and regulatory documents cited in the review of literature.

3.2 Sample and Sampling Technique

The sample consists of 250 mutual fund investors who either currently hold or have previously considered investing in quant or factor-based mutual fund schemes. Respondents were chosen through convenience sampling supplemented by snowball referrals, using online and offline channels. Only respondents with at least six months of mutual fund investment experience were retained.

3.3 Questionnaire and Measurement

The questionnaire has two sections. Section A captures demographic and investment profile variables (gender, age, education, income, experience, investment mode, risk tolerance, information sources and awareness). Section B contains ten statements on quant fund performance, volatility, transparency and behavioral intention, measured on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Internal consistency of the ten-item scale, measured by Cronbach's alpha, was 0.86, indicating good reliability.

3.3 Statistical Tools

Percentage analysis and descriptive statistics (mean and standard deviation) were used to profile respondents and summaries perceptions. A one-sample t-test compared item means against the neutral midpoint of 3. A chi-square test of independence examined the association between investment experience and awareness. One-way ANOVA compared intention to continue across experience groups, and multiple regression identified the determinants of that intention.

IV. DATA ANALYSIS AND INTERPRETATION

4.1 Demographic Profile of Respondents

Table 1: Demographic profile (n = 250)

Variable	Category	Frequency	Percentage
Gender	Male	162	64.8
	Female	88	35.2
Age	Below 25	38	15.2
	25 to 35	96	38.4
	36 to 45	68	27.2
	46 to 55	34	13.6
	Above 55	14	5.6
Education	Up to HSC	12	4.8
	Undergraduate	88	35.2
	Postgraduate	112	44.8
	Professional	38	15.2
Monthly income	Below ₹50,000	52	20.8
	₹50,000 to ₹1,00,000	98	39.2
	₹1,00,001 to ₹1,50,000	62	24.8
	Above ₹1,50,000	38	15.2

Interpretation: The sample is predominantly male (64.8%) and young, with 53.6% aged 35 or below. Nearly 60% hold a postgraduate or professional qualification, so the respondents are more educated than the average retail investor. This should be borne in mind when generalizing the results, since less-educated investors are likely to display an even larger knowledge gap.

4.2 Investment Profile

Table 2: Investment profile (n = 250)

Variable	Category	Frequency	Percentage
Investment experience	Less than 1 year	41	16.4
	1 to 3 years	89	35.6
	3 to 5 years	72	28.8
	More than 5 years	48	19.2
Mode of investment	SIP	158	63.2
	Lump sum	92	36.8
Risk tolerance	Conservative	46	18.4
	Moderate	121	48.4
	Aggressive	83	33.2
Main reason for considering quant funds	Past returns	91	36.4
	Data-driven, diversified approach	62	24.8
	Advisor or influencer recommendation	54	21.6
	Low cost or tax efficiency	28	11.2

Variable	Category	Frequency	Percentage
	Others	15	6.0
Main source of information	Social media and video platforms	88	35.2
	Advisors and distributors	66	26.4
	Fund fact sheets	58	23.2
	Financial news portals	38	15.2

Interpretation: Most respondents (63.2%) invest through SIPs, and nearly half describe themselves as moderate-risk investors. The single most common reason for considering quant funds is past returns (36.4%), which is consistent with the return-driven flow patterns and redemption fragility discussed in the recent fund literature (Goldstein et al., 2017; Morris et al., 2017). Social media and video platforms are the leading information source (35.2%), while fund fact sheets, the most reliable source, are used by less than a quarter of respondents.

4.3 Awareness and Regime Monitoring

Table 3: Awareness and monitoring behaviour (n = 250)

Variable	Category	Frequency	Percentage
Awareness of quant strategies	Fully aware	74	29.6
	Partially aware	109	43.6
	Not aware	67	26.8
Monitor market phase (bull, bear, sideways) before investing	Always	52	20.8
	Sometimes	118	47.2
	Never	80	32.0
Reaction to a fall of more than 15% in fund value	Hold	96	38.4
	Redeem partially	84	33.6
	Redeem fully	47	18.8
	Invest more	23	9.2

Interpretation: Only 29.6% of respondents say they are fully aware of how quant strategies work, and 26.8% are not aware at all, even though all of them have considered these funds. Only one in five always considers the market phase before investing. When a sharp fall occurs, 52.4% would redeem fully or partially, which is the behavioural channel through which volatility becomes realised loss.

4.4 Perceptions of Quant Fund Performance and Volatility

Table 4: Descriptive statistics and one-sample t-test against neutral value 3 (n = 250, df = 249)

No.	Statement	Mean	SD	t-value	Result
S1	Quant funds have outperformed conventional funds in the last three years	3.94	0.91	16.33	Significant

No.	Statement	Mean	SD	t-value	Result
S2	Quant fund NAV fluctuates sharply during changes in market regime	4.12	0.84	21.08	Significant
S3	Model-driven decisions reduce emotional bias	3.71	0.98	11.46	Significant
S4	I understand the risks of the quant strategy	3.02	1.12	0.28	Not significant
S5	Performance of quant funds is inconsistent across market cycles	3.88	0.95	14.64	Significant
S6	High portfolio turnover of quant funds concerns me	3.65	1.03	9.98	Significant
S7	The transparency of the models is adequate	2.71	1.08	-4.25	Significant (below neutral)
S8	I would continue investing during a prolonged correction	2.94	1.15	-0.82	Not significant
S9	Volatility indicators (standard deviation, beta) influence my fund choice	3.79	0.99	12.62	Significant
S10	AMC performance disclosures help me identify regime risk	3.33	1.07	4.88	Significant

Critical value of t at the 5% level (two-tailed) is approximately 1.97.

Interpretation: Respondents agree strongly that quant funds outperformed recently (3.94) and, at the same time, that their NAV is highly sensitive to regime changes (4.12), the highest mean on the scale. They also recognize inconsistency across cycles (3.88). The mean for self-reported understanding of quant risk (3.02) is statistically indistinguishable from neutral, and the mean for perceived model transparency (2.71) is significantly below neutral. Investors thus know that the funds are volatile, but do not feel equipped to understand why. The willingness to stay invested through a prolonged correction (2.94) is also not significantly different from neutral, indicating that investor conviction is fragile.

Test of H02: For S2, t = 21.08, which far exceeds the critical value. The null hypothesis is rejected: investors perceive quant funds as significantly sensitive to regime change.

4.5 Investment Experience and Awareness (Chi-Square Test)

Table 5: Investment experience versus awareness of quant strategies (observed frequencies)

Experience	Fully aware	Partially aware	Not aware	Total
Less than 1 year	4	15	22	41
1 to 3 years	20	42	27	89
3 to 5 years	27	33	12	72
More than 5 years	23	19	6	48
Total	74	109	67	250

Chi-square value $\chi^2 = 32.80$; degrees of freedom = 6; critical value at 5% = 12.59; $p < 0.001$; Cramér's V = 0.26.

Interpretation: Awareness rises steadily with experience. Among those with less than a year of experience, 53.7% are unaware of quant strategies, against only 12.5% among those with more than five years. The null hypothesis H01 is rejected. There is a statistically significant, moderate association between experience and awareness, which means that newer investors, who are the ones entering in the wake of strong returns, are also the least informed.

4.6 Experience and Intention to Continue (One-Way ANOVA)

Table 6: Mean intention to continue investing during a prolonged correction, by experience

Experience	N	Mean (S8)
Less than 1 year	41	2.61
1 to 3 years	89	2.87
3 to 5 years	72	3.04
More than 5 years	48	3.21
Total	250	2.94

$F(3, 246) = 6.84$; $p < 0.001$.

Interpretation: The mean intention to stay invested increases with experience, from 2.61 for the newest investors to 3.21 for the most experienced. The difference is statistically significant, so H03 is rejected. Experienced investors have likely lived through at least one correction, which builds tolerance for volatility, while newer investors have not yet had that test.

4.7 Determinants of Intention to Remain Invested (Multiple Regression)

The dependent variable is the intention to continue investing during a prolonged correction (S8). The independent variables are self-reported understanding of risk (S4), perceived transparency (S7), perceived regime sensitivity (S2), experience (in years, coded 1 to 4) and income (coded 1 to 4).

Table 7: Regression results

Predictor	Standardised β	t-value	p-value
Constant	1.12	2.98	0.003
Understanding of quant risk (S4)	0.31	5.84	< 0.001
Perceived transparency (S7)	0.24	4.51	< 0.001
Perceived regime sensitivity (S2)	-0.19	-3.16	0.002
Investment experience	0.14	2.56	0.011
Income	0.05	1.00	0.320

$R^2 = 0.38$; adjusted $R^2 = 0.37$; $F(5, 244) = 29.9$; $p < 0.001$.

Interpretation: The model explains 38% of the variation in the intention to remain invested. Understanding of quant risk is the strongest positive predictor ($\beta = 0.31$), followed by perceived transparency ($\beta = 0.24$) and experience ($\beta = 0.14$). Perceived regime sensitivity has a significant negative effect ($\beta = -0.19$): the more investors see the fund as reacting sharply to regime change,

the less they intend to stay. Income is not significant. The null hypothesis H04 is rejected for four of the five predictors; only income fails to contribute. In practical terms, knowledge and clarity keep investors invested, whereas the perception of unmanaged volatility drives them out.

V. FINDINGS

The analysis of 250 respondents yields the following findings.

- The sample is young and well educated: 53.6% are aged 35 or below and 60% hold postgraduate or professional qualifications, and 63.2% invest through SIPs.
- Past returns are the leading reason for considering quant funds (36.4%), ahead of the data-driven approach (24.8%), indicating that performance chasing rather than strategy understanding drives entry.
- Social media and video platforms are the most used information source (35.2%), while fund fact sheets are used by only 23.2% of respondents.
- Only 29.6% of respondents are fully aware of how quant strategies work, and 26.8% are not aware at all.
- Awareness of quant strategies is significantly associated with investment experience (χ^2 = 32.80, $p < 0.001$, Cramér's V = 0.26); 53.7% of investors with less than one year of experience are unaware of the strategy.
- Investors strongly perceive that quant fund NAV is sensitive to regime changes (mean 4.12), the highest-rated statement, and this perception is significantly above neutral (t = 21.08).
- Investors believe that quant funds have performed well recently (mean 3.94) but also that performance is inconsistent across market cycles (mean 3.88).
- Perceived transparency of quant models is significantly below neutral (mean 2.71), and self-reported understanding of risk is only neutral (mean 3.02).
- Only 20.8% of investors always consider the market phase before investing, and 32.0% never do.
- On a fall of more than 15%, 52.4% of respondents would redeem partially or fully, while only 9.2% would invest more.
- Intention to stay invested during a prolonged correction increases significantly with experience, from 2.61 to 3.21 ($F = 6.84$, $p < 0.001$).
- Understanding of quant risk ($\beta = 0.31$), perceived transparency ($\beta = 0.24$) and experience ($\beta = 0.14$) increase the intention to stay invested, while perceived regime sensitivity reduces it ($\beta = -0.19$); income has no significant effect.
- Investors moderately value AMC disclosures for identifying regime risk (mean 3.33), and 3.79 of 5 report that volatility indicators influence their choice, suggesting a demand for better risk information.

VI. DISCUSSION

The results paint a consistent picture: investors are attracted by returns, aware of volatility, but poorly equipped to interpret the mechanisms that produce it. This has implications at three levels.

Returns attract, understanding retains. The dominance of past returns as the entry motive mirrors recent evidence that fund flows respond strongly to visible performance and can be fragile (Goldstein et al., 2017; Morris et al., 2017). The regression results add the other half of the story: what keeps investors in the fund during difficulty is not the previous return but their understanding of the strategy and their confidence in its transparency. A model-based fund whose logic remains a black box to its holders is fragile in the sense that its investor base can leave at the worst possible moment. Because a redemption spiral can force a fund to sell into weak markets, investor fragility can feed back into fund performance.

Regime awareness is largely absent at the investor level. The recent literature stresses that market behavior differs sharply by regime (Liu et al., 2024; Jindal et al., 2024; Daniel & Moskowitz, 2016). Investors in this study intuitively sense this, as shown by the high agreement on regime sensitivity, but only one in five checks the market phase before investing. The finding is consistent with evidence that factor premia and strategy payoffs vary over time (Ilmanen et al., 2021; Daniel & Moskowitz, 2016). The implication is not that retail investors should attempt to time regimes, which remains a hard forecasting problem even in the academic literature (Liu et al., 2024), but that they should size their exposure with realistic expectations of the range of outcomes and stay invested only with money that can withstand a difficult phase.

Experience is a partial substitute for knowledge. The significant relationships between experience, awareness and staying power suggest that investors learn through exposure. The danger is that learning occurs through losses. The newest cohort, which has entered largely during a favorable phase, has yet to see how the fund behaves in a sustained downturn, and the survey suggests that a large proportion would redeem in that event. A loss-aversion pattern helps explain this: after a period of exceptional gains, the recent peak becomes the reference point, and a fall of 15% is experienced as a painful loss rather than as ordinary volatility. The herding shifts that Jindal et al. (2024) document in crash regimes point in the same direction.

Transparency is a design problem. The low perception of transparency (2.71) does not necessarily mean that AMCs conceal information; it may mean that current disclosures are not designed for the way retail investors process information. Investors report that volatility metrics influence their decisions (3.79), yet the disclosures they rely on, such as fact sheets, are used by fewer than a quarter of respondents, while social media is used by more than a third. If the most-used information channel is also the least reliable, investors will keep forming expectations from selective performance narratives. The top-of-distribution reversals reported for quant funds by Miguel and Chen (2021) are a reminder that even strong recent performance can fade; retail investors are unlikely to identify such risks unaided, and low financial literacy (Klapper & Lusardi, 2020) makes this more likely.

Limits of the argument. The findings do not imply that quant funds are inferior. Factor premia are documented in the literature (Aghassi et al., 2023; Ilmanen et al., 2021), and a systematic process can improve discipline. The point is that these funds are regime-sensitive by construction, and that the mismatch between the strategy's risk and the investor's understanding, rather than the strategy itself, is the principal source of harm.

VII. SUGGESTIONS

Based on the findings, the following suggestions are offered.

- Evaluate quant funds across full market cycles. Investors should judge performance over a period that includes at least one bull phase and one correction, and should examine rolling returns, maximum drawdown and downside capture rather than a single trailing figure. (Findings 2, 7)
- Limit allocation and match it to risk capacity. Investors should restrict quant funds to a satellite portion of the portfolio, sized so that a 15% to 25% fall would not compel redemption. (Findings 10, 12)
- Prefer staggered entry through SIPs. Systematic investment reduces the risk of entering at a regime peak, and it should be maintained through corrections rather than paused. (Findings 1, 10)
- Read primary disclosures before relying on social media. Fact sheets, the scheme information document and the riskometer should be the first sources consulted, with online commentary used only as a supplement. (Finding 3)
- AMCs should publish plain-language model summaries. A short disclosure explaining the factors used, the rebalancing frequency, the typical turnover and the conditions under which the model has underperformed would improve perceived transparency. (Findings 8, 12)
- AMCs should report regime-wise performance. Returns during rising, falling and sideways markets, together with volatility and drawdown history, would give investors a realistic view of the strategy's behaviour. (Findings 6, 7, 13)
- Advisors and distributors should assess suitability, not just returns. They should check whether the client understands the strategy and can tolerate a drawdown before recommending a quant fund, particularly to first-time investors. (Findings 4, 5, 11)
- Investor education should target new entrants. Short modules on volatility clustering, regimes and drawdown behaviour, delivered through the platforms that new investors actually use, would address the largest knowledge gap. (Findings 3, 4, 5)
- Regulators should consider standardised risk disclosure for systematic strategies. Complementing the static riskometer with disclosures of turnover, volatility, drawdown and model-change events would help investors compare quant schemes more meaningfully. (Findings 8, 9, 13)

- Promote responsible performance communication. Advertising and rankings that emphasize short-window returns should carry balanced cycle-wide information, so that entry decisions are not driven by a single favorable regime. (Findings 2, 7)

VIII. LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

The study relies on a sample of 250 respondents chosen through convenience sampling, which limits generalization. Responses are self-reported and reflect perceptions rather than actual holdings or realized returns. The sample is more educated than the general investor population. Future research could combine survey evidence with a Markov-switching or GARCH-based analysis of the NAV series of quant funds, compare them with actively managed and index funds across identified regimes, and track investors' actual redemption behavior over a full market cycle.

IX. CONCLUSION

This paper set out to decode how regime shifts and volatility dynamics shape the performance of quant mutual funds, and how investors perceive and react to these dynamics. The literature shows that markets move between regimes with distinct means, volatilities and correlations, that volatility clusters and adapts with a lag, and that factor premiums exploited by systematic strategies vary across market states. Quant funds, however disciplined, therefore carry regime risk by design.

The survey of 250 investors shows that this risk is felt but not understood. Investors rate regime sensitivity as the most salient feature of quant funds, yet only three in ten are fully aware of how the strategies work, perceived transparency is below neutral, and most enter on the strength of past returns. Awareness rises with experience, and staying power rises with awareness, transparency and experience, but falls with perceived regime sensitivity. The behavioral consequence is that a majority would redeem after a sharp fall, converting temporary volatility into realized loss.

The central conclusion is that the performance of a quant fund is jointly determined by the model and by the investor who holds it. Better model transparency, regime-wise disclosure, suitability-based advice and targeted education can narrow the gap between fund returns and investor returns. For investors, the lesson is to judge these funds across cycles, size the allocation prudently, and stay invested only when the strategy and its risks are understood.

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