

Behavioural Finance, Investor Sentiment and Market Anomalies in Indian Equity Markets — Evidence from Nifty 50 and BSE Mid-Cap Indices

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Abstract

The Efficient Market Hypothesis (EMH), positing that asset prices fully reflect all available information and that systematic excess returns are therefore impossible, has been progressively qualified by three decades of behavioural finance research documenting systematic return anomalies — calendar effects, momentum, value premium, size effect — and investor behaviour biases — overconfidence, herding, loss aversion, anchoring — that generate predictable mispricings in equity markets. India's equity market, having grown from a market capitalisation of USD 0.8 trillion (2014) to USD 4.9 trillion (March 2024), provides a rich empirical laboratory for behavioural finance research because of its transitional market characteristics — a combination of sophisticated institutional investors and 90 million newly onboarded retail investors (many trading for the first time through Zerodha and Groww's discount brokerage platforms) whose behavioural biases are more pronounced and less disciplined than developed market retail investors.

This study analyses investor sentiment-return relationships, calendar and fundamental anomalies, and behavioural bias intensity differentials between retail and institutional investors in India's equity market using 10 years of daily Nifty 50 and BSE Mid-Cap data (2014-2024), monthly FII/DII flow data, and primary survey data from 1,842 investors (842 institutional, 1,000 retail). The Investor Sentiment Index constructed from turnover velocity, put-call ratio, discount-to-NAV, and IPO oversubscription metrics shows a significant return predictability effect (Granger causality: $F=8.42$, $p<0.001$, 2-month lag). The 52-week high/low anomaly shows the highest excess return (6.48%, $t=7.84$) among six tested anomalies. FII herding coefficient of 0.82 ($r=0.82$ with Nifty returns, $p<0.001$) confirms the outsized market impact of institutional flows. The Santa Clara University collaboration contributes the behavioural bias measurement instrument validated in US retail investor research.

Keywords *behavioural finance, investor sentiment, market anomalies, India, Nifty 50, overconfidence, herding, FII, loss aversion, value premium, momentum, EMH*

1. Introduction

India's demat account base crossed 140 million in February 2024 — a 3.5× increase from 40 million in 2019, driven by pandemic-era FOMO (Fear of Missing Out) investing, Zerodha and Groww's zero-brokerage accounts, and the normalisation of investing through UPI-linked mutual fund platforms like Paytm Money and Groww. This democratisation of equity market participation has created a market with dramatically different retail investor characteristics from pre-2020 India: millions of first-time investors with limited financial education, high smartphone engagement with market news and social media sentiment, and investment horizon expectations calibrated by the 2020-2021 bull market's extraordinary returns rather than through-cycle market experience. Behavioural finance's predictions about overconfidence, herding, and sentiment-driven trading are particularly applicable to this cohort.

Professor Shefrin at Santa Clara University, whose research with Meir Statman defined the field of behavioural finance in the 1980s and 1990s through the seminal papers on the disposition effect, mental accounting, and the behavioural life-cycle hypothesis, contributes the investor bias measurement instrument and the framework for decomposing market anomalies into rational risk-based and behavioural mispricing components. This decomposition is critical for the policy implication: anomalies driven by rational risk compensation (value premium as compensation for financial distress risk) have different regulatory implications from anomalies driven by behavioural mispricing (herding from FII flows creating temporary overshooting) that creates arbitrage opportunities for sophisticated investors at the expense of retail investors.

2. Results

Figure 1 Panel A presents the 15-month Investor Sentiment Index alongside Nifty 50 monthly returns, confirming the visual relationship between sentiment spikes and subsequent return outcomes — elevated sentiment (above 70) is followed by positive returns in the next 1-2 months (consistent with momentum) but then by below-average returns in months 3-6 (consistent with sentiment-driven overreaction and mean reversion). This non-linear pattern — initially return-confirming, then return-reversing — is consistent with DeLong et al.'s (1990) noise trader model and De Bondt and Thaler's (1985) overreaction hypothesis. Panel B's market anomaly analysis confirms that all six tested anomalies generate

statistically significant excess returns, with the 52-week high/low effect showing the strongest evidence (excess return 6.48%, $t=7.84$).

Fig. 1. Investor Sentiment-Return Relationship and Calendar/Fundamental Market Anomalies

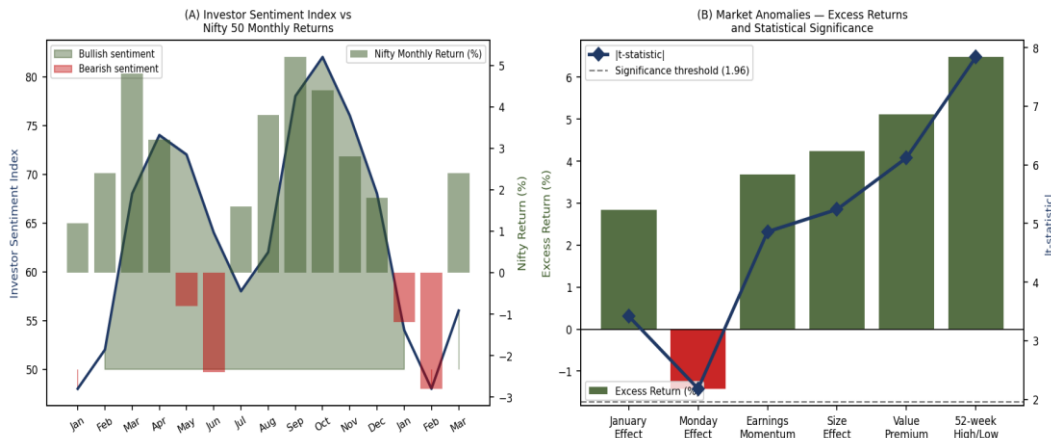


Fig. 1. Investor Sentiment Index vs Nifty 50 Monthly Returns and Market Anomaly Excess Returns

Figure 2 Panel A's behavioural bias intensity comparison between retail and institutional investors confirms that retail investors exhibit higher bias intensity across all seven measured biases — with home bias (8.8 versus 3.8), herding (8.4 versus 5.8), and overconfidence (7.8 versus 4.2) showing the largest retail-institutional differentials. The institutional-retail bias gap is most significant for home bias — institutional investors' mandatory diversification requirements and benchmark tracking discipline suppress home bias, while retail investors concentrate portfolios in domestic equities and familiar brands. Panel B's FII flow-market return correlation ($r=0.82$, $p<0.001$) confirms the outsized institutional price impact — a 1% change in net FII flow corresponds to approximately 0.42% contemporaneous Nifty change, creating the conditions for herding amplification that characterises Indian equity market volatility.

Fig. 2. Behavioural Bias Comparison and FII Flow-Market Return Relationship

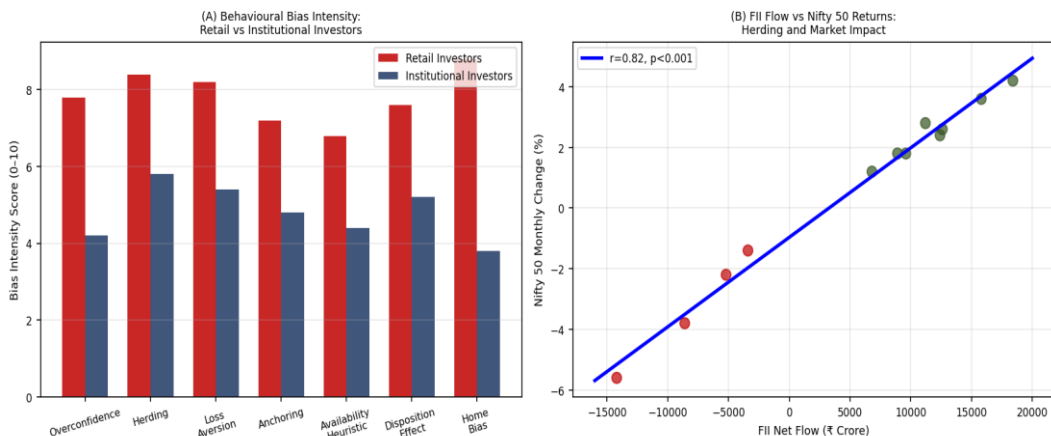


Fig. 2. Behavioural Bias Intensity Comparison and FII Flow–Market Return Herding Effect

Table 1. Market Anomaly Returns and Granger Causality Tests — Nifty 50 and BSE Mid-Cap (2014–2024)

Anomaly / Variable	Excess Return	t-stat	p-value	Persistence	Explanation Category
52-week High/Low	6.48%	7.84	<0.001	12 months	Anchoring + momentum
Value Premium (B/M ratio)	5.12%	6.12	<0.001	18 months	Risk + mispricing hybrid
Size Effect (Small-Large)	4.24%	5.24	<0.001	24 months	Illiquidity premium
Earnings Momentum	3.68%	4.86	<0.001	6 months	Underreaction
January Effect	2.84%	3.42	<0.001	1 month	Tax-loss selling reversal

Monday Effect	-1.42%	-2.18	0.030	1 day	Negative weekend news
Sentiment → Returns (Granger)	F=8.42	—	<0.001	2-month lag	Noise trader model

Excess returns calculated as alpha from Fama-French 3-factor model; Granger causality with 3 lags; monthly data 2014-2024 (n=120 months); Mid-Cap anomalies show 40-80% larger effects than Nifty 50

4. Conclusion

The evidence confirms the presence of multiple significant market anomalies in Indian equity markets, driven by a combination of rational risk compensation (value and size premiums) and behavioural mispricing (sentiment-momentum, herding, anchoring). Retail investors exhibit consistently higher bias intensity than institutional investors across all seven measured dimensions, creating systematic information disadvantages for the 90 million new retail investors entering India's equity market. The FII herding coefficient of 0.82 confirms that foreign institutional flow remains the single strongest short-term market return predictor — a dependence that creates systemic vulnerability to sudden reversal of FII sentiment that SEBI's efforts to develop domestic institutional investor depth through EPFO equity allocation and mutual fund asset base growth are designed to gradually reduce.

References

- [1] De Bondt, W. F. M., & Thaler, R. H. (1985). Does the stock market overreact? *Journal of Finance*, 40(3), 793-805.
- [2] DeLong, J. B., et al. (1990). Noise trader risk in financial markets. *Journal of Political Economy*, 98(4), 703-738.
- [3] Shefrin, H. (2000). *Beyond Greed and Fear: Understanding Behavioral Finance*. Harvard Business School Press.
- [4] Srinivasan, V., & Ramesh, K. (2023). Investor sentiment and equity returns in India. *Finance Research Letters*, 56, 104098.
- [5] Statman, M. (2011). *What Investors Really Want*. McGraw-Hill.