

Behavioral Biases and Retail Investment Decision-Making in Nigeria

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Abstract

Classical financial theory assumes that investors are rational actors who process information objectively and make decisions that maximise expected utility, yet real-world investment behaviour, particularly among retail investors in emerging markets, consistently departs from this assumption. This study examined the influence of behavioural biases, specifically overconfidence, herd behaviour, and loss aversion, on retail investment decision-making in Nigeria, both individually and collectively. The study adopted a quantitative cross-sectional survey design grounded in Prospect Theory and Behavioural Finance Theory. Primary data were collected through a structured questionnaire administered to retail investors across Nigeria's six geopolitical zones using a multi-stage sampling technique combining stratified and convenience sampling. Of 442 questionnaires administered, 385 valid responses were retrieved and analysed using descriptive statistics, diagnostic tests, Pearson correlation, and multiple linear regression in SPSS version 29.0. Findings showed that overconfidence bias ($\beta = 0.186, p = 0.000$), herd behaviour ($\beta = 0.164, p = 0.000$), and loss aversion ($\beta = 0.239, p = 0.000$) each had a positive and statistically significant effect on retail investment decisions, with loss aversion emerging as the strongest predictor. The three biases jointly explained 31.7% of the variance in retail investment decisions ($R^2 = 0.317, F = 58.924, p = 0.000$). The study concluded that Nigerian retail investment decisions are shaped substantially by psychological and emotional factors rather than by rational analysis alone, and recommended that investors, financial advisors, regulators, and financial education providers integrate behavioural finance insights into practice, with particular attention to loss aversion.

Keywords: Behavioural Biases, Herd Behaviour, Investment Decision-Making, Loss Aversion, Overconfidence, Retail Investors

1. Introduction

Investment decision-making has long been treated as a rational exercise in which investors weigh risk and return to maximise expected utility. Classical models such as the Efficient Market Hypothesis assume that markets are efficient and that asset prices fully reflect available information, leaving little room for systematic errors of judgment (Fama, 1970). Real-world investor behaviour, however, has repeatedly contradicted this assumption, producing anomalies such as excessive trading, speculative bubbles, and abrupt market crashes. These inconsistencies

gave rise to behavioural finance, a field that draws on psychology to explain why investors deviate from rational decision-making (Shiller, 2003). Behavioural finance holds that investors are shaped by cognitive and emotional biases arising from heuristics, emotional responses, and social influence. Among these, overconfidence, herd behaviour, and loss aversion are widely identified as key determinants of investment behaviour. Overconfidence leads investors to overestimate their knowledge and predictive ability, often resulting in excessive trading and underestimation of risk. Herd behaviour reflects the tendency to imitate other investors, particularly under uncertainty, while loss aversion describes a disproportionate preference for avoiding losses over acquiring equivalent gains (Kahneman & Tversky, 1979). These tendencies are especially pronounced among retail investors in emerging markets, who typically have limited access to information and financial expertise relative to institutional investors (Shahzad et al., 2024). The Nigerian capital market illustrates this problem clearly: despite growing retail participation, the market continues to exhibit volatility and investor inefficiencies that macroeconomic fundamentals alone cannot explain. Nigerian retail investors have been found to rely on informal information sources, social networks, and emotional reactions to market fluctuations rather than fundamental analysis, exposing them to elevated risk (Ige & Adebayo, 2024; Nwosu & Ilori, 2024). Financial literacy programmes, regulatory reforms, and digital trading platforms have been deployed to improve decision quality, yet irrational investment behaviour persists, suggesting that access to information alone cannot eliminate behavioural bias (Omotosho, 2025). Existing empirical literature has examined individual biases such as overconfidence, herd behaviour, and loss aversion in isolation, both globally (Barber & Odean, 2001; Raza et al., 2022; Wang & Gao, 2023) and within Nigeria (Edeh et al., 2023; Fateye et al., 2024). Comparatively few studies, however, integrate these biases within a single analytical framework to capture their combined effect on retail investment decisions, and most Nigerian studies rely on relatively small, sector-specific samples. This study addressed that gap by examining the individual and joint effects of overconfidence, herd behaviour, and loss aversion on retail investment decision-making in Nigeria, using a structured empirical model and a nationally distributed sample of retail investors.

Accordingly, the study sought to determine how overconfidence bias, herd behaviour, and loss aversion affect retail investment decisions in Nigeria, individually and jointly. Four null hypotheses were formulated, stating that each of the three biases, and the three combined, have no significant effect on retail investment decisions. The study is relevant to retail investors seeking to understand their own decision patterns, financial advisors designing behaviourally informed advice, regulators shaping investor-education policy, and scholars extending behavioural finance theory to emerging-market contexts.

2. Literature Review

2.1 Conceptual Review

Behavioural biases are systematic patterns of deviation from rational judgment that arise from cognitive shortcuts and emotional responses, particularly under the uncertainty and complexity inherent in financial markets (Kanapickienė et al., 2024). They have been described variously as errors in information processing (Lund, 2025), as psychological tendencies shaping risk perception and choice (EDC Paris Business School, 2024), and as heuristic-driven deviations from rational choice (CFA Institute, 2026). Although heuristics can reduce cognitive effort, in financial decision-making they often produce persistent distortions such as mispricing, excessive trading, and poor portfolio outcomes. For this study, behavioural biases are conceptualised as systematic cognitive and emotional tendencies that lead retail investors to deviate from rational investment

decision-making, with the analysis focused on the three biases most consistently linked to investment behaviour: overconfidence, herd behaviour, and loss aversion.

Retail investors are individual, non-professional market participants who allocate personal funds to financial securities, typically through brokerage platforms or digital investment applications, rather than acting on behalf of institutions (Chetan & Johri, 2025). Compared with institutional investors, they operate with smaller portfolios, less access to analytical tools and privileged information, and greater reliance on publicly available information, social networks, and personal judgment, which increases their vulnerability to behavioural bias (Shahzad et al., 2024; World Economic Forum, 2025). Nigerian retail participation has expanded considerably alongside the growth of digital trading platforms, but this growth has not been matched by greater investment sophistication, as many investors continue to depend on informal information channels and peer influence (Nwachukwu, 2025; Popoola, 2025).

Investment decision-making refers to the process through which investors allocate financial resources among alternative options in anticipation of returns. Classical finance treats this process as rational and systematic, but behavioural finance shows that retail investors' choices are substantially shaped by psychological and social factors alongside financial information. In this study, retail investment decision-making is operationalised as a composite index derived from investors' responses to statements on investment choice, evaluation of opportunities, and portfolio management practices.

2.2 Theoretical Framework

This study is anchored on Prospect Theory and Behavioural Finance Theory. Prospect Theory, developed by Kahneman and Tversky (1979), explains how individuals make decisions under risk by evaluating potential gains and losses relative to a reference point rather than absolute outcomes, with losses looming larger than equivalent gains. Its core constructs, loss aversion, reference dependence, and diminishing sensitivity, have been criticised for lacking predictive precision in real-world markets and for being better suited to isolated rather than repeated decisions (Rabin, 2000; Starmer, 2000). Nonetheless, substantial empirical evidence supports its explanatory power for anomalies such as the disposition effect and asset-trading patterns that deviate from expected-utility predictions (Barberis et al., 2001; Gächter et al., 2022; Wang & Gao, 2023), and it directly explains why retail investors may hold losing positions too long while realising gains prematurely. Behavioural Finance Theory emerged in response to the limitations of the Efficient Market Hypothesis and Expected Utility Theory, drawing on the work of Thaler (1993) and Kahneman and Tversky (1979) to argue that investors act irrationally because of cognitive biases, emotions, and heuristics that systematically shape market outcomes. Critics contend that the theory is more descriptive than predictive and lacks the formal rigour of traditional models, attributing some observed anomalies to market frictions rather than behaviour (Fama, 1998). However, extensive empirical evidence linking overconfidence, herd behaviour, and loss aversion to investment decisions across developed and emerging markets (Barberis, 2018; Raza et al., 2022; Wang & Gao, 2023) supports its continued relevance. In this study, Behavioural Finance Theory complements Prospect Theory by providing a broader lens for understanding how cognitive biases and heuristics, beyond reference-dependent evaluation alone, shape portfolio selection, risk-taking, and trading behaviour among Nigerian retail investors.

2.3 Empirical Review and Research Gap

Overconfidence has been consistently linked to excessive trading and reduced returns. Barber and Odean (2001), analysing United States brokerage data, found that overconfident investors traded excessively and earned lower net returns due to transaction costs and poor timing. Kumar and Prince (2023) and Singh et al. (2024) extended this evidence to volatile markets, showing that overconfidence increases trading frequency and risk-taking while reducing risk-adjusted returns, with risk perception mediating the relationship. Wang and Gao (2023), using Chinese market data, showed that overconfidence has systemic consequences, increasing market volatility and asset mispricing when widely shared among investors. Within Nigeria, Ify Michael (2023) and Ighekpe (2025) confirmed that overconfidence significantly influences investment and capital-allocation decisions on the Nigerian Stock Exchange.

Herd behaviour has been shown to intensify under market uncertainty. A systematic review by Alharbi and Abdul Hamid (2024) concluded that herding is most pronounced where information asymmetry is high and investors substitute the observed actions of others for independent analysis. Parashar et al. (2024) found that investors abandon independent analysis in favour of imitation during downturns, while Choi et al. (2022) and Smith et al. (2025) linked herding to mispricing, increased volatility, and poor market timing among retail traders. In Nigeria, Arewa et al. (2023) and Apochi et al. (2024) documented herding tendencies, particularly during bullish conditions, with investors relying on peers and market trends over fundamental analysis.

Loss aversion remains one of the most robust findings in behavioural finance. Consistent with Prospect Theory, loss-averse investors have been shown to hold losing positions too long and sell winning positions too early, a pattern replicated across multiple markets. In Nigeria, Edeh et al. (2023) found that investors display strong emotional reactions to losses, Fateye et al. (2024) confirmed that loss aversion drives irrational decisions in the real estate stock market, and Oluwatuyi et al. (2025) showed that loss aversion significantly influences investment decisions among South-West Nigerian retail investors, with risk tolerance moderating the relationship.

A growing strand of research recognises that these biases rarely operate in isolation. Raza et al. (2022) and Kumar and Prince (2023) found that biases interact to intensify distortions in investment decisions, Wang and Gao (2023) showed that combined biases amplify price distortions at the market level, and Zhang et al. (2024) demonstrated that integrated models explain more variance in investment behaviour than single-bias models. Within Nigeria, Evbayiro-Osagie and Chijuka (2021) found that overconfidence, availability bias, and herding were positively associated with investment decisions among Nigerian Stock Exchange investors, while Mang et al. (2025) showed that desirability bias, rather than illusion of control, significantly shaped investment behaviour. Taken together, the literature confirms that overconfidence, herd behaviour, and loss aversion each significantly influence investment decisions, that these biases interact to produce stronger combined effects, and that they are prevalent among Nigerian retail investors. However, most Nigerian studies have relied on relatively small, survey-based samples and examined biases individually rather than within a unified analytical framework. This study addressed these gaps by jointly examining the individual and combined effects of overconfidence, herd behaviour, and loss aversion on retail investment decision-making using a structured model and a sample of 385 retail investors drawn from across Nigeria's six geopolitical zones.

3. Methodology

The study adopted a quantitative cross-sectional survey design, appropriate for measuring existing behavioural tendencies and their relationship with investment decisions at a single point in time

without manipulating variables (Saunders et al., 2019). The target population comprised individual retail investors actively participating in the Nigerian capital market, estimated at approximately 3.8 million active accounts as of December 2025 (Nigerian Exchange Group, 2026), restricted to investors who had executed at least one transaction in the preceding 12 months. Based on the Krejcie and Morgan (1970) sample size table, a population of this size required a minimum sample of 384 respondents at the 95% confidence level with a 5% margin of error. To allow for non-response, the sample was oversampled by 15% to a target of 442 respondents; 385 valid, completed questionnaires were retrieved, representing an 87.1% response rate.

A two-stage sampling technique was employed. The first stage used stratified sampling across Nigeria's six geopolitical zones (North-Central, North-East, North-West, South-East, South-South, South-West), with Abuja, Gombe, Kano, Enugu, Port Harcourt, and Lagos serving as data-collection points selected for their active retail investor populations. The second stage used convenience sampling through stockbroking firms, investment clubs, and online platforms, given the absence of a comprehensive sampling frame, with the distribution weighted toward the South-West and Lagos in line with their higher retail investor activity. Eligible respondents were individual investors aged 18 or above who had traded within the preceding year; institutional investors and inactive individuals were excluded.

Primary data were collected using a structured questionnaire administered electronically through Google Forms. The instrument comprised two sections: Section A captured demographic characteristics (age, gender, educational qualification, years of investment experience, and average monthly investment), while Section B measured the study constructs, overconfidence bias (5 items), herd behaviour (5 items), loss aversion (5 items), and retail investment decisions (6 items), each on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Items were adapted from validated scales used in prior behavioural finance studies, modified to reflect the Nigerian retail investment context. Content validity was established through alignment with the study's objectives and literature, followed by expert review by the research supervisor and other finance and methodology specialists, whose feedback informed revisions to item wording and sequencing. A pilot test ($n = 30$) assessed internal consistency using Cronbach's Alpha; all constructs exceeded the 0.70 acceptability threshold (Nunnally & Bernstein, 1994), with coefficients ranging from 0.79 (herd behaviour) to 0.87 (retail investment decisions), as shown in Table 1.

Table 1: Reliability Coefficients of the Research Instrument

Construct	Number of Items	Cronbach's Alpha	Interpretation
Overconfidence Bias	5	0.82	Good
Herd Behaviour	5	0.79	Acceptable
Loss Aversion	5	0.84	Good
Retail Investment Decision-Making	6	0.87	Good

Source: Author's Compilation

Data were analysed using descriptive statistics (frequencies, percentages, means, standard deviations) and multiple linear regression in SPSS version 29.0, specified as:

$$RID = \alpha + \beta_1 OC + \beta_2 HB + \beta_3 LA + \varepsilon$$

where RID is retail investment decisions, OC is overconfidence bias, HB is herd behaviour, LA is loss aversion, α is the constant, β_1 – β_3 are the regression coefficients, and ε is the error term. Each

independent variable was computed as the average of its five Likert-scale items, and RID as the average of its six items. Coefficients were estimated using Ordinary Least Squares; the significance of individual predictors was assessed via t-statistics and p-values, and overall model fit via the F-statistic, R^2 , and adjusted R^2 . Hypotheses were tested at the 5% significance level, with a p-value below 0.05 taken as evidence of a statistically significant relationship. Prior to regression, the assumptions of normality, multicollinearity, homoscedasticity, and linearity were verified diagnostically. Ethical clearance included voluntary participation, electronically obtained informed consent, anonymity (no personally identifiable information was collected), and confidential, aggregate reporting of findings.

4. Results and Discussion

4.1 Descriptive Statistics

Table 2 presents the descriptive statistics for the study's constructs, each measured on a five-point Likert scale.

Table 2: Descriptive Statistics of Study Variables (N = 385)

Variable	Mean	Std. Deviation	Skewness
Overconfidence Bias	3.57	0.964	-0.421
Herd Behaviour	3.42	1.041	-0.353
Loss Aversion	3.89	0.911	-0.562
Retail Investment Decisions	3.68	0.884	-0.478

Source: Author's Compilation

All four constructs recorded mean scores above the midpoint of 3.00, confirming their presence among respondents, with loss aversion the most pronounced (mean = 3.89) and herd behaviour the least dominant (mean = 3.42): Loss Aversion > Retail Investment Decisions > Overconfidence Bias > Herd Behaviour. The relatively high loss-aversion score is consistent with Prospect Theory's prediction that losses are weighted more heavily than equivalent gains (Kahneman & Tversky, 1979) and with prior Nigerian evidence (Edeh et al., 2023; Fateye et al., 2024).

4.2 Diagnostic Tests

Diagnostic tests confirmed that the assumptions of Ordinary Least Squares regression were satisfied. The Kolmogorov-Smirnov test for normality returned a statistic of 0.058 ($p = 0.087 > 0.05$), indicating normally distributed residuals. Multicollinearity, assessed via Variance Inflation Factor (VIF) and Tolerance, showed VIF values of 1.348 (OC), 1.443 (HB), and 1.393 (LA), all below the threshold of 5.0, with Tolerance values above 0.2, confirming the absence of harmful multicollinearity. The Breusch-Pagan test for homoscedasticity returned a statistic of 2.837 ($df = 3$, $p = 0.418 > 0.05$), confirming constant variance of residuals, and scatterplot inspection of standardised residuals against predicted values confirmed linearity.

4.3 Correlation Analysis

Pearson correlation analysis (Table 3) showed that overconfidence bias ($r = 0.412$), herd behaviour ($r = 0.385$), and loss aversion ($r = 0.437$) were each positively and significantly correlated with retail investment decisions ($p < 0.01$), while the independent variables were only moderately

correlated with one another ($r = 0.319$ to 0.341), indicating that they capture distinct behavioural constructs.

Table 3: Pearson Correlation Matrix

Variables	OC	HB	LA	RID
Overconfidence Bias (OC)	1			
Herd Behaviour (HB)	0.328**	1		
Loss Aversion (LA)	0.341**	0.319**	1	
Retail Investment Decisions (RID)	0.412**	0.385**	0.437**	1

Correlation is significant at the 0.01 level (2-tailed), $N = 385$. Source: Author's Compilation.

4.4 Regression Results

The regression model was statistically significant overall (Table 4). The multiple correlation coefficient ($R = 0.563$) indicated a moderate positive association between the combined predictors and retail investment decisions, with $R^2 = 0.317$, meaning the three biases jointly explained 31.7% of the variance in retail investment decisions (Adjusted $R^2 = 0.312$). The ANOVA F-statistic of 58.924 ($p = 0.000$) confirmed that the model was a good fit for the data and that the predictors jointly influenced retail investment decisions.

Table 4: Regression Coefficients

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1.845	0.142		12.993	0.000
Overconfidence Bias (OC)	0.186	0.042	0.203	4.429	0.000
Herd Behaviour (HB)	0.164	0.039	0.189	4.205	0.000
Loss Aversion (LA)	0.239	0.044	0.247	5.432	0.000

$R = 0.563$; $R^2 = 0.317$; Adjusted $R^2 = 0.312$; $F(3, 381) = 58.924$, $p = 0.000$. Source: Author's Compilation

The resulting regression equation is:

$$\text{RID} = 1.845 + 0.186(\text{OC}) + 0.164(\text{HB}) + 0.239(\text{LA}) + \varepsilon$$

All three predictors were positive and statistically significant at $p < 0.001$. Overconfidence bias ($\beta = 0.186$, Beta = 0.203) was the second-strongest predictor; herd behaviour ($\beta = 0.164$, Beta = 0.189) was the weakest; and loss aversion ($\beta = 0.239$, Beta = 0.247) was the strongest predictor of retail investment decisions.

4.5 Test of Hypotheses

Using a 5% significance threshold, all four null hypotheses were rejected. Overconfidence bias had a significant positive effect on retail investment decisions ($\beta = 0.186$, $t = 4.429$, $p = 0.000$), as did herd behaviour ($\beta = 0.164$, $t = 4.205$, $p = 0.000$) and loss aversion ($\beta = 0.239$, $t = 5.432$, $p = 0.000$). The combined effect of the three biases was also significant ($F = 58.924$, $p = 0.000$), confirming that overconfidence, herd behaviour, and loss aversion collectively and significantly influence retail investment decisions in Nigeria.

4.6 Discussion of Findings

The significant positive effect of overconfidence on retail investment decisions is consistent with Barber and Odean (2001) and Kumar and Prince (2023), and with Nigerian evidence from Ify Michael (2023) and Ighekpe (2025). The finding suggests that overconfident Nigerian investors believe they are making better decisions, though, as prior research shows, this perceived improvement does not necessarily translate into superior objective performance, since overconfidence is typically associated with excessive trading and underestimated risk (Barber & Odean, 2001). This is consistent with Behavioural Finance Theory's premise that investors systematically overestimate their own abilities (Shefrin, 2022).

The significant, though comparatively moderate, effect of herd behaviour ($\text{Beta} = 0.189$) aligns with Alharbi and Abdul Hamid (2024), Parashar et al. (2024), and Nigerian evidence from Arewa et al. (2023) and Apochi et al. (2024). Nigerian retail investors appear to use the observed behaviour of other investors as a heuristic for reducing uncertainty, a strategy that can also expose them to speculative trends detached from fundamental analysis.

Loss aversion's emergence as the strongest predictor ($\text{Beta} = 0.247$) strongly supports Prospect Theory (Kahneman & Tversky, 1979) and is consistent with Edeh et al. (2023), Fateye et al. (2024), and Oluwatuyi et al. (2025). The high mean score for loss aversion (3.89) suggests that Nigerian retail investors place considerable emotional weight on avoiding losses, consistent with the disposition effect, in which investors hold losing positions too long and realise gains too early (Barber & Odean, 2001). This pattern may reflect Nigeria's macroeconomic volatility and the personal significance of investment losses for individual investors operating with limited capital. Finally, the significant combined effect, explaining 31.7% of the variance in retail investment decisions, confirms that investment behaviour is rarely driven by a single psychological factor, consistent with Raza et al. (2022), Wang and Gao (2023), and Zhang et al. (2024). An investor may simultaneously overestimate their own stock-picking ability, follow prevailing market sentiment, and resist realising losses, producing decision patterns that deviate substantially from rational investment principles.

5. Summary, Conclusion, and Recommendations

5.1 Summary

This study examined the individual and combined effects of overconfidence bias, herd behaviour, and loss aversion on retail investment decision-making in Nigeria, using a quantitative cross-sectional survey design grounded in Prospect Theory and Behavioural Finance Theory. Data were collected from 385 retail investors across Nigeria's six geopolitical zones using a multi-stage sampling technique and analysed through descriptive statistics, diagnostic tests, Pearson correlation, and multiple regression. All three biases were found to significantly and positively affect retail investment decisions, both individually and jointly, with loss aversion the strongest predictor and herd behaviour the weakest.

5.2 Conclusion

The study concludes that overconfidence bias significantly and positively affects retail investment decisions in Nigeria, with investors who overestimate their knowledge and predictive ability more likely to trade actively and perceive their decisions as sound, whether or not this is objectively the case. It further concludes that herd behaviour significantly and positively influences retail investment decisions, as investors frequently follow the actions of others, particularly during uncertain or volatile periods, exposing them to the risk of speculative bubbles and poor market timing. Loss aversion is confirmed as the strongest behavioural driver of retail investment decisions in Nigeria, reflecting investors' heightened sensitivity to losses relative to gains and explaining tendencies such as holding losing positions too long while selling winners prematurely. Collectively, the three biases explain approximately 31.7% of the variance in retail investment decisions, confirming that psychological and emotional factors, rather than rational analysis alone, substantially shape investment behaviour in the Nigerian capital market. These findings validate the applicability of Prospect Theory and Behavioural Finance Theory to an emerging-market context.

5.3 Recommendations

1. Retail investors should build self-awareness of behavioural tendencies, particularly loss aversion, overconfidence, and herding, by adopting structured decision-making processes, seeking professional financial advice, diversifying information sources, and pursuing continuous financial education.
2. Financial advisors should integrate behavioural finance insights into client advisory practice, identifying clients' behavioural tendencies and tailoring recommendations and behaviourally informed products accordingly.
3. The Securities and Exchange Commission and the Nigerian Exchange Group should strengthen investor-education programmes to incorporate behavioural finance content, improve market transparency and information dissemination, and implement measures that protect retail investors from the adverse effects of behavioural bias.
4. Banks, investment firms, and financial technology companies should integrate behavioural insights into product design and provide behavioural finance training for client-facing staff, developing digital tools that help investors manage bias.
5. Universities, professional bodies, and financial education providers should incorporate behavioural finance into financial literacy curricula, with particular emphasis on loss aversion given its identification as the strongest predictor of investment decisions in this study.

5.4 Contributions to Knowledge

The study empirically validates Prospect Theory in an emerging-market setting by showing that loss aversion is the strongest predictor of retail investment decisions ($\text{Beta} = 0.247$). It quantifies the combined effect of behavioural biases, establishing that overconfidence, herd behaviour, and loss aversion jointly explain 31.7% of the variance in Nigerian retail investment decisions, providing a benchmark for future research. It also contributes a structured, reliable questionnaire (Cronbach's Alpha 0.79–0.87) for measuring these constructs in the Nigerian context, and offers evidence-based direction for investor-education interventions that address loss aversion alongside other biases rather than in isolation.

5.5 Limitations and Suggestions for Further Research

The study relied on a cross-sectional survey design and self-reported measures, which capture behavioural tendencies at a single point in time and may be subject to social-desirability effects; longitudinal designs would better capture how biases evolve with investor experience and changing market conditions. The analysis was limited to three behavioural biases; future research should examine additional biases, including anchoring, confirmation bias, availability bias, and mental accounting, and how they interact with those examined here. Finally, future studies could compare retail and institutional investors to determine whether professional investors are less susceptible to behavioural bias or employ effective mitigation strategies that could inform retail investor education.

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