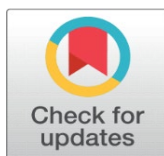


UNDERSTANDING BEHAVIOURAL BIASES IN INVESTMENT DECISION-MAKING: KEY DRIVERS AND IMPLICATIONS

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ABSTRACT

The study aims to explore the influence of behavioural biases on investment decisions. Utilizing a survey of 294 respondents, multiple regression analysis reveals that biases such as Anchoring and Representativeness, Overconfidence, Herd Behaviour, and Optimism significantly affect decision-making. Anchoring and Representativeness Bias emerges as the most influential factor, underlining the importance of cognitive heuristics. The findings provide practical implications for enhancing financial literacy and informed investment strategies while paving the way for future research on other biases and sector-specific variations.

Keywords: Anchoring Bias, Representativeness Bias, Heuristics, Decision Making

1. INTRODUCTION

Behavioural finance challenges the traditional notion of rational decision-making in investments by emphasizing the role of cognitive biases and psychological factors. This study investigates how four prominent biases—Overconfidence, Herd Behaviour, Anchoring and Representativeness, and Optimism—affect investors' choices. By identifying these biases' relative influence, the research contributes to understanding irrational behaviours in financial markets and proposes measures to mitigate their impact.

2. LITERATURE REVIEW

The impact of cognitive biases on investment decisions has been extensively documented in behavioural finance literature. Kahneman and Tversky (1979) laid the groundwork by introducing the concept of heuristics, such as anchoring, which influences investors to rely excessively on initial information. Similarly, Shefrin (2002) emphasized

that overconfidence leads to an underestimation of risk and an overestimation of one's abilities, often resulting in suboptimal decision-making. Odean (1998) further supported this by showing that overconfident investors tend to trade excessively, which erodes returns over time.

De Bondt and Thaler (1985) discussed how Herd Behaviour amplifies market volatility, as investors mimic the actions of others without conducting independent analysis. Banerjee (1992) contributed by formalizing the theory of Herd Behaviour, suggesting that individuals follow group trends due to perceived social validation rather than rational evaluation. Barberis and Thaler (2003) explored optimism bias, noting that unwarranted positivity can lead investors to overlook critical risks, particularly in bullish markets.

Shiller (2000) highlighted how anchoring bias and optimism contribute to speculative bubbles, demonstrating the interplay between cognitive and emotional factors in financial markets. Ricciardi and Simon (2000) added that cognitive biases, including anchoring and overconfidence, often lead to irrational deviations from optimal financial strategies. Pompian (2006) categorized behavioural biases into cognitive and emotional, explaining how both types affect investment outcomes, with overconfidence and anchoring being particularly prevalent among retail investors.

Chen et al. (2007) examined the role of cultural factors in amplifying Herd Behaviour, revealing that collectivist societies exhibit higher susceptibility to this bias. Bikhchandani et al. (1998) identified the informational cascade effect, where individuals make decisions based on others' actions, exacerbating Herd Behaviour. Gervais and Odean (2001) provided empirical evidence linking overconfidence to trading frequency, highlighting its adverse impact on portfolio performance.

Tseng (2006) explored optimism bias in emerging markets, demonstrating that excessive positivity often leads investors to ignore systemic risks, particularly during periods of economic growth. Kahneman (2011) reiterated the importance of cognitive biases in decision-making, underscoring how anchoring and overconfidence distort rational evaluations. Montier (2007) discussed the psychological underpinnings of Herd Behaviour, suggesting that it is driven by evolutionary instincts for survival and social conformity.

Lastly, Dar et al. (2021) examined the combined effects of cognitive biases, concluding that anchoring and overconfidence significantly influence retail investor decisions, particularly in volatile markets. Ullah (2019) highlighted the practical implications of addressing these biases through financial education and decision-support tools, emphasizing their potential to mitigate irrational tendencies. Collectively, these studies provide a robust foundation for understanding the impact of cognitive biases on investment decisions and their implications for financial behaviour.

3. RESEARCH METHODOLOGY

The study employs a structured survey targeting 294 working women from Bengaluru region, with the data subjected to multiple regression analysis. Before analysis, assumptions of multicollinearity, normality, and linearity were validated. Multicollinearity was assessed through Variance Inflation Factor (VIF) and Tolerance values, confirming the absence of significant correlations among predictor variables.

Data analysis and results

Table 1: Demographic details (N=294)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	164	55.8%
	Female	130	44.2%
Age Group	18-25 years	72	24.5%
	26-35 years	98	33.3%
	36-45 years	74	25.2%
	46 years and above	50	17.0%
Educational Level	High School	42	14.3%
	Undergraduate	112	38.1%
	Postgraduate	140	47.6%
Income Level	Less than ₹20,000	58	19.7%
	₹20,000 - ₹50,000	96	32.7%
	₹50,001 - ₹1,00,000	82	27.9%
	More than ₹1,00,000	58	19.7%
Investment Experience	Less than 1 year	84	28.6%
	1-3 years	120	40.8%
	3-5 years	54	18.4%
	More than 5 years	36	12.2%

Source: Primary data

The demographic distribution of the sample indicates that the majority of respondents are male (55.8%), with females comprising 44.2% of the participants. This relatively balanced gender representation allows for insights into potential gender-based differences in investment behaviour.

The age distribution reveals that the largest segment of participants falls within the 26–35 years age group (33.3%), followed by those aged 36–45 years (25.2%) and 18–25 years (24.5%). A smaller proportion (17.0%) consists of individuals aged 46 years and above. This indicates that the sample primarily consists of younger and middle-aged investors, potentially reflecting the growing involvement of these groups in investment activities.

In terms of educational qualifications, a substantial proportion of respondents hold postgraduate degrees (47.6%), followed by undergraduates (38.1%), and a smaller group having only high school education (14.3%). This suggests that the sample consists predominantly of well-educated individuals, which may influence their investment knowledge and decision-making.

Income distribution indicates that the largest group of respondents earns between ₹20,000 and ₹50,000 monthly (32.7%), followed by those earning ₹50,001 to ₹1,00,000 (27.9%). Equal proportions (19.7%) of participants fall into the lowest income category (less than ₹20,000) and the highest income category (more than ₹1,00,000). This diverse income representation enables the study to explore how income levels impact investment biases.

Regarding investment experience, the majority of respondents have 1–3 years of experience (40.8%), followed by those with less than 1 year of experience (28.6%). Participants with 3–5 years of experience (18.4%) and more than 5 years of experience (12.2%) represent smaller segments. This distribution suggests that most respondents are relatively new to investment, potentially influencing their susceptibility to behavioural biases.

MULTIPLE REGRESSION:

To test the proposed hypotheses, multiple regression analysis was employed as the primary statistical tool. Before conducting the final analysis, key assumptions associated with multiple regression were examined.

Multicollinearity Assumption:

Multicollinearity occurs when there is a high correlation between two or more independent variables, typically indicated by a correlation coefficient exceeding 0.8. To assess this, the analysis utilized Variance Inflation Factor (VIF) values, Tolerance values, and correlation analysis. The results, as shown in Table 2, confirm that all VIF values are below the threshold of 4 and Tolerance values exceed 0.2 for each predictor variable. These outcomes validate that multicollinearity is not present in the dataset, ensuring the reliability of the regression model.

Table 2: Multi-collinearity Tests

Independent Variables	Tolerance	VIF
Overconfidence Bias	.900	1.112
Herd Behaviour	.606	1.651
Anchoring and Representativeness Bias	.532	1.878
Optimism Bias	.465	2.151

Source: Primary Survey

Correlation analysis: The correlation matrix in Table 3 shows a positive and significant relationship between behavioural bias in investment decisions (dependent variable) and all four predictor variables (independent variables). The p value for all regression coefficient is below 0.05, these results indicate that increases in any of these biases are associated with higher levels of behavioural bias in investment decisions.

Table 3: Correlation of all variables

Correlations	Behavioural Bias	Overconfidence Bias	Overconfidence Bias	Overconfidence Bias	Overconfidence Bias
Behavioural Bias in Investment Decisions	1				
Overconfidence Bias	.430**	1			
Herd Behaviour	.561**	.221**	1		

Anchoring and Representativeness Bias	.619**	.303**	.510**	1	
Optimism Bias	.613**	.259**	.610**	.658**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Primary survey

The correlation analysis reveals a positive and significant relationship between behavioural bias in investment decisions and all four predictor variables at the 0.01 significance level. Anchoring and Representativeness Bias shows the strongest correlation ($r = 0.619$), followed closely by Optimism Bias ($r = 0.613$) and Herd Behaviour ($r = 0.561$). Overconfidence Bias exhibits a moderate correlation ($r = 0.430$). These results indicate that higher levels of these biases are associated with greater behavioural bias in investment decisions, highlighting their substantial influence on investor behaviour.

Multiple Regression Findings

Table 4: ANOVA

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	90.511	4	22.628	85.677	.000
	Residual	76.327	289	.264		
	Total	166.838	293			

(Source: Primary Survey)

The ANOVA results in Table 4 show that the regression model is statistically significant, with $F(4, 289) = 85.677$, $p < 0.001$. This demonstrates that the overall model explains a significant amount of variance in behavioural bias in investment decisions.

Table 5: Coefficients of Multiple Regression Analysis

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.128	.259		-.493	.622
	Overconfidence Bias	.270	.048	.235	5.607	.000
	Herd Behaviour	.243	.055	.225	4.402	.000
	Anchoring and Representativeness Bias	.307	.059	.282	5.175	.000
	Optimism Bias	.249	.063	.229	3.929	.000
Dependent Variable: Behavioural Bias in Investment Decisions						

(Source: Primary Survey)

The coefficients of the multiple regression model elucidate the influence of various predictors on behavioural bias in investment decisions. As presented in Table 5, all four factors—Overconfidence Bias, Herd Behaviour, Anchoring and Representativeness Bias, and Optimism Bias—exert a significant impact on behavioural bias, as evidenced by p-values less than 0.05. The standardized regression coefficients (β values) provide insights into the relative contribution of each independent variable to the dependent variable. A higher β value indicates a stronger influence on behavioural bias.

In this study, Anchoring and Representativeness Bias demonstrated the highest β value ($\beta = 0.282$, $p < 0.05$), making it the most influential factor in shaping behavioural bias. This was followed by Overconfidence Bias ($\beta = 0.235$), Optimism Bias

($\beta=0.229$), and Herd Behaviour ($\beta=0.225$), all of which showed statistically significant contributions to the dependent variable.

The t-values for all predictors exceeded the critical value of 1.96, and their corresponding p-values were below the significance threshold of 0.05. These results substantiate the research hypotheses, confirming the pivotal roles of these behavioural biases in influencing investment decisions.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.737	.543	.536	.51391

From the Table 6, The R-squared value of 0.543 indicates that 54.3% of the variance in behavioural bias is explained by the four predictors. This demonstrates a strong explanatory power of the regression model.

4. DISCUSSION AND IMPLICATION:

This study highlights the influence of behavioural biases—anchoring, overconfidence, herd behaviour, and optimism—on investment decision-making. Among these, overconfidence showed the most substantial impact, reinforcing findings from recent literature emphasizing its role in overestimating skills and underestimating risks, particularly in active investors (Ahmad et al., 2023; Ullah, 2019). Herd behaviour also emerged as a critical determinant, reflecting the tendency of investors to follow collective market movements without independent analysis (Dar et al., 2021; Hayat & Anwar, 2016).

These findings suggest practical implications for enhancing financial literacy among investors. Providing targeted educational interventions addressing biases, such as awareness campaigns and decision-support tools, could mitigate irrational behaviours and promote informed investment strategies. Moreover, the development of technology-driven platforms offering personalized guidance and risk assessments may empower investors to counteract biases like anchoring and optimism.

5. CONCLUSION AND FUTURE RESEARCH:

This study highlights the significant role of behavioural biases—Anchoring and Representativeness, Herd Behaviour, Optimism, and Overconfidence—on investment decisions. Anchoring and Representativeness Bias emerged as the most critical determinant, emphasizing the importance of cognitive heuristics in investor behaviour. Herd Behaviour, Optimism Bias, and Overconfidence Bias also significantly influence decisions, reflecting the complex psychological factors affecting investment choices.

Future research can explore additional biases, such as Loss Aversion and Confirmation Bias, to develop a more comprehensive understanding of behavioural finance. Longitudinal studies could provide insights into how these biases evolve over time and with changes in market conditions. Additionally, sector-specific investigations may reveal how biases vary across different types of investments, offering tailored strategies to address behavioural challenges in specific financial domains.

Conflicts of Interest

None.

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REFERENCES

Barberis, N., & Thaler, R. (2003). *A survey of behavioural finance*. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), *Handbook of the Economics of Finance* (Vol. 1, pp. 1053–1128). Elsevier. [https://doi.org/10.1016/S1574-0102\(03\)01027-6](https://doi.org/10.1016/S1574-0102(03)01027-6)

- Banerjee, A. V. (1992). A simple model of herd behaviour. *The Quarterly Journal of Economics*, 107(3), 797–817. <https://doi.org/10.2307/2118364>
- Bikhchandani, S., Hirshleifer, D., & Welch, I. (1998). Learning from the behaviour of others: Conformity, fads, and informational cascades. *Journal of Economic Perspectives*, 12(3), 151–170. <https://doi.org/10.1257/jep.12.3.151>
- Chen, G., Kim, K. A., Nofsinger, J. R., & Rui, O. M. (2007). Trading performance, disposition effect, overconfidence, representativeness bias, and experience of emerging market investors. *Journal of Behavioural Decision Making*, 20(4), 425–451. <https://doi.org/10.1002/bdm.561>
- Dar, M. A., & Parray, R. A. (2021). Behavioural finance and investment decisions: Analyzing the role of biases. *International Journal of Business and Economics Research*, 10(2), 61–68. <https://doi.org/10.11648/j.ijber.20211002.12>
- De Bondt, W. F. M., & Thaler, R. (1985). Does the stock market overreact? *The Journal of Finance*, 40(3), 793–805. <https://doi.org/10.1111/j.1540-6261.1985.tb05004.x>
- Gervais, S., & Odean, T. (2001). Learning to be overconfident. *The Review of Financial Studies*, 14(1), 1–27. <https://doi.org/10.1093/rfs/14.1.1>
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291. <https://doi.org/10.2307/1914185>
- Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
- Montier, J. (2007). *Behavioural investing: A practitioner's guide to applying behavioural finance*. John Wiley & Sons.
- Odean, T. (1998). Volume, volatility, price, and profit when all traders are above average. *The Journal of Finance*, 53(6), 1887–1934. <https://doi.org/10.1111/0022-1082.00078>
- Pompian, M. M. (2006). *Behavioural finance and wealth management: How to build investment strategies that account for investor biases*. Wiley Finance.
- Ricciardi, V., & Simon, H. K. (2000). What is behavioural finance? *Business, Education & Technology Journal*, 2(2), 1–9.
- Shiller, R. J. (2000). *Irrational exuberance*. Princeton University Press.
- Shefrin, H. (2002). *Beyond greed and fear: Understanding behavioural finance and the psychology of investing*. Oxford University Press.
- Tseng, K. C. (2006). Behavioural finance and psychological biases in investment decisions: Evidence from Taiwanese stock market. *Journal of Business and Behavioural Sciences*, 14(2), 121–135.
- Ullah, H. (2019). Behavioural biases in investment decision making and strategies to mitigate them. *Pakistan Journal of Commerce and Social Sciences*, 13(2), 380–400.