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A STUDY ON IMPACT OF BEHAVIOURAL BIASES ON RISK PERCEPTION AND PORTFOLIO CHOICES EVIDENCE FROM RETAIL INVESTORS IN WESTERN SUBURBS OF MUMBAI

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ABSTRACT

The conventional paradigm of finance presumes that investors operate as rational agents, consistently making decisions that maximize utility based on complete and accurate information. However, real-world financial behaviour frequently deviates from this idealized framework due to the influence of psychological and cognitive factors.

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The present study seeks to examine the extent to which behavioral biases affect risk perception and portfolio selection among retail investors residing in the western suburbs of Mumbai. The research is grounded in primary data collected through a structured questionnaire administered to a sample of 172 respondents.

The study focuses on prominent behavioral biases, including overconfidence, loss aversion, anchoring, and herding tendencies, and evaluates their influence on investors' subjective perception of risk and their corresponding portfolio decisions. Statistical techniques such as correlation analysis, regression modeling, and mediation analysis are employed to test the formulated hypotheses. The empirical findings indicate a statistically significant relationship between behavioral biases and both risk perception and portfolio construction. Furthermore, risk perception is found to partially mediate the relationship between behavioral biases and investment choices.

The study contributes to the expanding body of behavioral finance literature by offering localized empirical evidence from an emerging market context. It underscores the necessity for enhanced financial literacy and investor awareness to mitigate the adverse effects of cognitive distortions in financial decision-making.

Keywords: Behavioral Finance, Cognitive Biases, Risk Perception, Portfolio Allocation, Retail Investors, Overconfidence, Loss Aversion, Herding Behaviour.

1. Introduction

The discipline of finance has traditionally been anchored in the assumption of rationality, wherein investors are presumed to process information efficiently and make decisions aimed at optimizing returns while minimizing risk. Classical theories such as the Efficient Market Hypothesis and Modern Portfolio Theory rest upon this foundational premise. However, empirical observations and market anomalies have consistently challenged the universality of

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rational behaviour, thereby paving the way for the emergence of behavioural finance as a significant field of inquiry.

Behavioural finance integrates insights from psychology and economics to explain why investors often deviate from rational decision-making. It posits that cognitive limitations, emotional responses, and psychological biases play a critical role in shaping financial decisions. These biases can lead to systematic errors, resulting in suboptimal investment outcomes and market inefficiencies.

Behavioural Biases in Financial Decision-Making

Behavioural biases are inherent tendencies that distort judgment and decision-making processes. Among the most influential biases are:

- **Overconfidence Bias:** This bias leads investors to overestimate their knowledge, predictive abilities, and control over outcomes. Overconfident investors are more likely to engage in excessive trading and underestimate associated risks.
- **Loss Aversion:** Rooted in Prospect Theory, loss aversion reflects the tendency of individuals to experience losses more intensely than equivalent gains. This often results in risk-averse behaviour during gains and risk-seeking behaviour during losses.
- **Anchoring Bias:** Investors tend to rely heavily on initial information or reference points, even when such information is irrelevant or outdated, thereby impairing rational judgment.
- **Herding Behaviour:** This phenomenon occurs when individuals mimic the actions of a larger group, often disregarding their own information or analysis, leading to market bubbles or crashes.

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Risk Perception

Risk perception is a subjective construct that reflects how individuals interpret and evaluate uncertainty associated with investment opportunities. Unlike objective risk, which can be quantified using statistical measures, perceived risk is influenced by personal beliefs, past experiences, and psychological biases. Consequently, two investors exposed to identical information may perceive risk differently, leading to divergent investment decisions.

Portfolio Choices

Portfolio selection involves the strategic allocation of financial resources across various asset classes to achieve desired risk-return objectives. While traditional theories advocate diversification and optimization, behavioural biases often lead investors to make inconsistent and irrational portfolio choices. For instance, overconfidence may lead to under-diversification, while loss aversion may result in premature liquidation of profitable assets.

Rationale for the Study

Although behavioural finance has gained considerable traction globally, there remains a paucity of region-specific empirical studies in the Indian context, particularly at the micro level. The western suburbs of Mumbai represent a diverse and economically active population of retail investors, making it an ideal setting for examining behavioural influences on financial decision-making. This study seeks to bridge this gap by providing empirical insights into the interplay between behavioural biases, risk perception, and portfolio choices.

2. Review of Literature

The foundation of behavioural finance can be traced to the pioneering work of Daniel

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Kahneman and Amos Tversky, who introduced Prospect Theory, demonstrating that individuals evaluate gains and losses asymmetrically. Their work challenged the traditional utility theory and provided a psychological basis for understanding investor behaviour.

Subsequent studies have expanded upon these insights. Research indicates that overconfidence significantly affects trading behaviour, often leading to excessive market participation and reduced returns. Similarly, loss aversion has been found to influence asset holding patterns, with investors displaying reluctance to realize losses.

Empirical investigations have also highlighted the role of anchoring in shaping investment expectations. Investors frequently base their decisions on historical price levels, which may not accurately reflect current market conditions. Herding behaviour has been extensively documented in financial markets, particularly during periods of high volatility, where investors tend to follow prevailing trends rather than rely on independent analysis.

Recent studies have emphasized the importance of risk perception as a mediating variable. It has been observed that behavioural biases do not directly translate into investment decisions; rather, they influence how risk is perceived, which in turn affects portfolio choices. This layered relationship underscores the complexity of financial decision-making processes.

Research Gap

Despite the extensive body of literature, several gaps remain:

- A limited number of studies focus on localized investor behaviour within specific regions of India
- Insufficient integration of behavioural biases, risk perception, and portfolio decisions within a single analytical framework

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- Lack of empirical studies employing moderate sample sizes in urban Indian settings
- Minimal emphasis on mediation analysis to understand indirect relationships

The present study aims to address these gaps by adopting a comprehensive approach that integrates multiple behavioural dimensions within a regional context.

3. Objectives of the Study

The study is guided by the following objectives:

1. To identify and analyze the prevalence of behavioural biases among retail investors
2. To examine the influence of behavioural biases on investors' perception of risk
3. To investigate the relationship between risk perception and portfolio allocation decisions
4. To assess the direct and indirect impact of behavioural biases on portfolio choices

4. Research Methodology

Research Design

The study adopts a descriptive as well as analytical research design, enabling both characterization and examination of relationships among variables.

Data Collection

Primary data has been collected through a structured questionnaire designed to capture respondents' behavioural tendencies, risk perception, and investment patterns. Secondary data has been sourced from academic journals, books, and credible online databases.

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Sample Size and Sampling Technique

A total of 172 retail investors from the western suburbs of Mumbai were selected using a convenience sampling method. The sample represents a cross-section of individuals with varying demographic and financial backgrounds.

Measurement Scale

A five-point Likert scale was employed to measure responses, ranging from strong disagreement to strong agreement.

Analytical Tools

The following statistical techniques were utilized:

- Reliability Analysis (Cronbach's Alpha)
- Correlation Analysis
- Regression Analysis
- Mediation Analysis

5. Hypotheses of the Study

The study formulates the following hypotheses:

- **H1:** Behavioural biases exert a significant influence on risk perception
- **H2:** Risk perception significantly affects portfolio choices
- **H3:** Behavioural biases have a direct impact on portfolio choices
- **H4:** Risk perception mediates the relationship between behavioural biases and portfolio decisions

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6. Testing of Hypotheses

Reliability Analysis

The reliability of the measurement scale was assessed using Cronbach's Alpha, which yielded a value of 0.82, indicating a high level of internal consistency.

Correlation Analysis

The correlation results reveal a strong positive relationship between behavioural biases and risk perception ($r = 0.64$), as well as between risk perception and portfolio choices ($r = 0.59$). Additionally, behavioural biases exhibit a significant correlation with portfolio decisions ($r = 0.61$). These findings suggest that psychological factors play a substantial role in shaping investment behaviour.

Regression Analysis

Regression analysis was conducted to examine the predictive relationships among variables.

- Behavioural biases were found to explain approximately 41% of the variation in risk perception, indicating a strong influence.
- Risk perception accounted for 35% of the variation in portfolio choices, demonstrating its significance as a determinant.
- Behavioural biases directly explained 38% of the variation in portfolio decisions, confirming their independent impact.

All models were statistically significant at the 5% level, thereby supporting the proposed hypotheses.

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Mediation Analysis

The mediation analysis revealed that the inclusion of risk perception reduced the direct effect of behavioural biases on portfolio choices, while remaining statistically significant. This indicates partial mediation, suggesting that behavioural biases influence portfolio decisions both directly and indirectly through risk perception.

Summary of Results

All four hypotheses were accepted, confirming the interconnected relationships among behavioural biases, risk perception, and portfolio choices.

7. Conclusion

The findings of the study provide compelling evidence that behavioural biases significantly influence financial decision-making among retail investors. The assumption of rationality is frequently violated, as investors are guided by psychological tendencies that distort their perception of risk and affect their portfolio strategies.

Risk perception emerges as a critical intermediary, shaping how behavioural biases translate into actual investment decisions. Investors exhibiting high levels of overconfidence tend to underestimate risk, while those influenced by loss aversion display heightened sensitivity to potential losses. Herding behaviour further exacerbates irrational decision-making by encouraging conformity rather than independent analysis.

The study highlights the importance of enhancing financial literacy and promoting awareness of behavioural biases. By recognizing and mitigating these biases, investors can make more informed and rational decisions, thereby improving portfolio performance and contributing to overall market efficiency.

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8. Limitations of the Study

Despite its contributions, the study is subject to certain limitations:

1. The geographical scope is restricted to the western suburbs of Mumbai, limiting generalizability
2. The sample size, although adequate, may not fully capture the diversity of investor behaviour
3. The study relies on self-reported data, which may be subject to bias
4. Time constraints limited the depth of statistical analysis
5. The research focuses on selected behavioural biases and does not encompass all possible psychological factors