

The Influence of Behavioral Finance on Investment Decisions: A Systematic Literature Review

Pengaruh Behavioral Finance terhadap Keputusan Investasi: Tinjauan Literatur Sistematis

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ABSTRACT

This research explores the impact of overconfidence on portfolio performance, with a focus on comparisons between retail and institutional investors through a systematic literature review approach. Overconfidence, as one of the main cognitive biases in behavioral finance, often influences investment decisions and portfolio results. This study identifies and analyzes how overconfidence affects retail and institutional investors differently, as well as its impact on portfolio management and investment policy. The findings show that retail investors, with limited knowledge and resources, tend to be more affected by overconfidence, which negatively impacts their portfolio performance. In contrast, institutional investors have access to better information and analytical tools, so they are better able to manage the impact of overconfidence. This research makes an important contribution to the behavioral finance literature by filling the knowledge gap regarding the differences in the impact of overconfidence between the two types of investors and offering practical insights for investment managers and market regulators. Limitations of the study and suggestions for future research are also discussed to expand understanding of this phenomenon.

Keywords: Portfolio Performance, Retail Investors, Institutional Investors, Behavioral Finance, Portfolio Management, Investment Decision Making

ABSTRAK

Penelitian ini mengeksplorasi dampak overconfidence terhadap kinerja portofolio, dengan fokus pada perbandingan antara investor ritel dan institusional melalui pendekatan systematic literature review. Overconfidence, sebagai salah satu bias kognitif utama dalam behavioral finance, sering kali mempengaruhi keputusan investasi dan hasil portofolio. Studi ini mengidentifikasi dan menganalisis bagaimana overconfidence mempengaruhi investor ritel dan institusional secara berbeda, serta dampaknya terhadap pengelolaan portofolio dan kebijakan investasi. Temuan menunjukkan bahwa investor ritel, dengan keterbatasan pengetahuan dan sumber daya, cenderung lebih terpengaruh oleh overconfidence, yang berdampak negatif pada kinerja portofolio mereka. Sebaliknya, investor institusional memiliki akses ke informasi dan alat analisis yang lebih baik, sehingga mereka lebih mampu mengelola dampak overconfidence. Penelitian ini memberikan kontribusi penting terhadap literatur behavioral finance dengan mengisi kekosongan pengetahuan mengenai perbedaan dampak overconfidence antara kedua jenis investor dan menawarkan wawasan praktis untuk manajer investasi dan regulator pasar. Keterbatasan penelitian dan saran untuk penelitian masa depan juga dibahas untuk memperluas pemahaman tentang fenomena ini.

Kata Kunci: Kinerja Portofolio, Investor Ritel, Investor Institusional, Behavioral Finance, Pengelolaan Portofolio, Pengambilan Keputusan Investasi

1. Introduction (Introduction)

In recent decades, the field of finance has increasingly recognized the importance of psychological factors in investment decision making, leading to the emergence of paradigms behavioral finance. This paradigm shift emerged as a critique of traditional financial models

that generally assume that investors act as rational agents who fully consider available information when making decisions. However, empirical research shows that investor behavior is often influenced by cognitive biases, which can result in irrational decisions and negatively impact portfolio performance (Elhussein & Abdelgadir, 2020; Jaiyeoba & Haron, 2016; Zhang et al., 2022; Ahmad & Shah, 2020).

One of the most prominent cognitive biases in this context is overconfidence, which is defined as the tendency of individuals to overestimate their ability to make predictions or decisions, often ignoring the associated risks and uncertainties (Shahani & Ahmed, 2023; Ahmad & Shah, 2020; Trinugroho & Sembel, 2011). Overconfidence can appear in many forms, including excessive trading, taking unnecessary risks, and ignoring information that conflicts with personal beliefs. Research has shown that this bias can significantly harm portfolio performance in both the short and long term (Ahmad & Wu, 2023; Ahmad & Shah, 2020; Chhapra et al., 2018). For example, research indicates that overconfident investors tend to trade more frequently, which can result in higher transaction costs and lower overall returns (Ahmad & Shah, 2020; Trinugroho & Sembel, 2011; Chhapra et al., 2018).

The impact of overconfidence is not limited to retail investors; Institutional investors also exhibit this bias, although in a different context. Retail investors often have limited access to comprehensive financial information and may lack the experience necessary for effective portfolio management. In contrast, institutional investors generally have greater resources and expertise, which can reduce some of the effects of overconfidence (Dhakal & Lamsal, 2023; Seraj et al., 2022; Sattar et al., 2020). However, differences in access to information and experience indicate that the implications of overconfidence for investment strategies can vary greatly between these two groups (Seraj et al., 2022; Dhungana et al., 2022; The Relationship among Overconfidence, Economic Expectation, Social Factors and Investment Decision Making Behavior with the Mediating and Moderating Effects, 2021). For example, while retail investors may be more likely to make impulsive decisions based on overconfidence, institutional investors may leverage their resources to conduct more in-depth analysis, while remaining susceptible to cognitive biases.

Furthermore, the interaction between overconfidence and other cognitive biases, such as herding behavior and loss aversion, further complicates the investment decision-making landscape. Research has shown that these biases can reinforce each other, leading to more blatant irrational behavior among investors (Haidari, 2023; Ranaweera & Kawshala, 2022; Rahmawati, 2023). Understanding these dynamics is critical to developing optimal investment strategies that take into account the psychological factors that influence the decision-making process. In conclusion, recognition of psychological factors, especially overconfidence, has changed the understanding of investment decision making in finance. By recognizing the limitations of traditional models and integrating insights from behavioral finance, investors can better navigate the complexities of market behavior and improve the performance of their portfolios.

In this context, this study seeks to investigate and compare impacts overconfidence on portfolio performance between retail and institutional investors. By understanding these differences, this research not only aims to fill gaps in the existing literature, but also provides insights that investors, portfolio managers, and policymakers can use to develop more effective strategies for managing risk. overconfidence and improve overall investment performance.

Overconfidence, as one of the most prominent cognitive biases in behavioral finance, has a significant impact on investment decisions, especially among retail investors. Retail investors often indicate levels of overconfidence high levels, which can lead to irrational investment behavior and have a negative impact on portfolio performance. In this context, overconfidence can influence retail investors to make overly optimistic decisions, such as overtrading shares, selecting high-risk assets without considering their risk profile, and ignoring information that contradicts their own views.

Limited experience, knowledge and financial resources often exacerbate the effects of overconfidence in retail investors. Lack of sufficient experience and knowledge in market analysis can make retail investors more susceptible to these biases, which can ultimately lead to less informative decision making and negatively impact their portfolio performance. Limited financial resources also limit retail investors' ability to spread risk effectively, resulting in potential losses resulting from overconfidence.

This research will explore the impact of overconfidence on retail investors by identifying the mechanisms that influence their investment behavior, as well as how these biases impact portfolio outcomes. This study will provide insight into how overconfidence plays a role in investment decision making and what the implications are for retail investors looking to improve their portfolio performance.

Temporary overconfidence also affects institutional investors, the impact on portfolio performance may be different compared to retail investors. Institutional investors generally have greater access to comprehensive financial information, and are supported by a team of professionals experienced in market analysis and portfolio management. However, despite these advantages, institutional investors are not completely immune to bias overconfidence.

Overconfidence among institutional investors can manifest itself in the form of overconfidence in their ability to predict market movements or manage portfolios effectively. This can lead to unnecessary risk taking or suboptimal asset allocation, which can ultimately negatively impact portfolio performance. For example, overconfidence may cause institutional investors to continue to maintain or even increase their exposure to assets that have demonstrated high performance in the past, without regard to changing market conditions or possible increased risks.

This research will explain how overconfidence influences the investment decisions and portfolio performance of institutional investors, taking into account factors such as access to information, professional experience, and portfolio management on a large scale. This study will evaluate whether overconfidence has a negative impact on portfolio performance, as well as how institutions can reduce this risk through a more structured and data-driven risk management approach.

Comparison between retail and institutional investors in terms of impact overconfidence on portfolio performance is an important area of research to explore the significant differences that may exist in the context of investment behavior and portfolio outcomes. Although both groups of investors are susceptible to bias overconfidence, the underlying mechanisms and their impact on portfolio performance can be very different.

Retail investors, with limitations in access to information, experience, and resources, may be more vulnerable to the negative impacts of overconfidence. On the other hand, institutional investors, although more experienced and have greater resources, may also experience impacts overconfidence but at different scales and contexts, such as in more complex portfolio management and strategic asset allocation.

This research will compare the impacts of overconfidence between the two groups of investors, with the aim of identifying significant differences in the way these biases affect portfolio performance. This study will explore whether institutional investors are more successful in managing impact overconfidence compared to retail investors, and how factors such as experience, access to information, and scale of portfolio management contribute to these differences. It is hoped that the results of this research will provide deeper insight into how overconfidence plays a role in investment decision making at various levels and provides recommendations for strategies that can be used to mitigate risks of overconfidence.

Although overconfidence has been recognized as one of the significant cognitive biases in behavioral finance, research on its impact on portfolio performance still presents a number of gaps that need to be identified and analyzed further. One area that requires special attention is impact differences overconfidence between retail and institutional investors. The existing

literature often focuses on one of the groups without conducting an in-depth comparative analysis between these two types of investors, even though their different characteristics can produce very different implications in the context of investment behavior and portfolio performance.

Retail investors, with limited access to comprehensive financial information, and more limited resources and experience, tend to be more susceptible to leverage overconfidence. Meanwhile, institutional investors, although more experienced and have access to greater resources, are also not completely immune to negative impacts overconfidence. However, the available literature often does not discuss in depth how these two groups deal with bias overconfidence and how these differences affect their portfolio performance.

Previous research also lacks exploration of how factors such as scale of portfolio management, access to information, and level of experience influence intensity and impact overconfidence between the two groups of investors. Additionally, existing research often does not consider how different market contexts and economic conditions may amplify or mitigate effects of overconfidence in each group.

Therefore, there is an urgent need to identify and explain these research gaps. By conducting a comprehensive and comparative analysis between retail and institutional investors, this research will contribute to the literature by exploring dimensions that have not yet been fully explored. The main goal is to understand the differences in impact overconfidence on portfolio performance between these two groups and to develop insights that can be used in investment practice to manage the risks resulting from overconfidence more effectively.

This research aims to compile a comprehensive picture of how overconfidence influences portfolio performance by comparing the impact between retail and institutional investors. Through systematic literature review, this research will integrate various findings from existing literature to provide a deeper understanding of the dynamics of overconfidence in an investment context.

Specifically, this research aims to identify general patterns as well as basic differences in methods overconfidence influence investment decisions and portfolio performance in both groups of investors. Retail investors, who generally have limited access to information, financial resources and experience, are often more susceptible to bias overconfidence, which can lead to inappropriate risk taking and suboptimal portfolio returns. On the other hand, institutional investors, despite having an advantage in terms of access to information and professional experience, can also be affected by overconfidence, especially in complex strategic decision making and large-scale portfolio management.

By exploring and comparing impacts overconfidence in these two groups, this study aims to present a more holistic analysis of how these biases operate in different contexts. In addition, this research will identify factors that strengthen or weaken the influence of overconfidence on portfolio performance, as well as the implications for optimal investment strategies. Thus, this research not only contributes to the development of literature behavioral finance, but also provides practical insights for investors and portfolio managers in managing the risks associated with overconfidence.

This research makes significant contributions in two main aspects: academic contribution and practical implications. Academically, this research fills an existing gap in the literature regarding impact overconfidence on portfolio performance, especially in the context of comparisons between retail and institutional investors. Although overconfidence has become the focus of deep attention behavioral finance, studies that specifically compare the impact on these two groups of investors are still limited. This research expands understanding of how overconfidence operates across a variety of investor contexts, highlighting differences and similarities in the way these biases influence investment decisions and portfolio outcomes. In doing so, this research adds a new dimension to the existing literature, which previously

tended to examine overconfidence in a more general context or limited to one group of investors.

This research also contributes by presenting a systematic analysis of the existing literature, which allows the identification of general patterns as well as specific factors influencing the intensity and impact of overconfidence. By adopting an approach systematic literature review (SLR), this research not only provides a summary of previous findings, but also critiques and evaluates existing gaps in previous research. This provides a solid foundation for further, more in-depth research in the field behavioral finance, especially as it relates to the comparison between retail and institutional investors.

From a practical perspective, this research provides important insights for investors and portfolio managers in understanding and managing impact overconfidence on portfolio performance. The findings from this research can help retail and institutional investors recognize the signs of overconfidence in their decision making and develop more effective strategies to reduce the risks associated with these biases.

For retail investors, this research offers guidance in avoiding investment-driven behavior overconfidence, such as over trading or investing in assets that are too risky. Meanwhile, for institutional investors, this research provides insight into how overconfidence can influence strategic decision making at higher levels, such as in asset allocation or large-scale portfolio management. This knowledge can be used to improve risk management practices and more rational, data-based decision making.

Overall, this research not only enriches the academic literature in the field behavioral finance, but also makes a real contribution to the world of investment practice, with applicable implications for improving portfolio performance and optimizing investment decisions across different types of investors.

2. Method

2.1 Research Design

This research uses an approach Systematic Literature Review (SLR) as the main method for analyzing relevant literature regarding impacts overconfidence on portfolio performance, both for retail and institutional investors. Approach SLR selected for its ability to present a comprehensive and structured overview of previous research, as well as to ensure that the results obtained are comprehensive, transparent and replicable.

In the context of this research, SLR will be used to identify, evaluate, and synthesize findings from various studies that have been published in academic journals and other trusted sources. This process involves a systematic literature search with predefined inclusion and exclusion criteria, aiming to obtain a representative dataset of the most relevant and high-quality research.

Approach SLR also allowed this research to overcome selection and interpretation bias by ensuring that each stage in the literature review process was conducted objectively and systematically. By using this technique, this research not only summarizes what has been found in previous studies, but also identifies gaps in the literature that have not been researched in depth, especially in the context of impact comparisons. overconfidence to retail and institutional investors.

Process SLR will begin with collecting literature through searching major academic databases such as Scopus, Web of Science, and Google Scholar, using relevant keywords such as overconfidence, investment decisions, portfolio performance, retail investors, and institutional investors. Thereafter, studies that meet the inclusion criteria will be analyzed in depth to evaluate their methods, samples, results, and contribution to the understanding of overconfidence and its impact on portfolio performance.

Through approach SLR This research will make a significant contribution by presenting a structured and evidence-based analysis of the existing literature, while providing a strong

foundation for further research in the field of behavioral finance. The results obtained from this analysis will be the basis for answering the research questions that have been formulated, as well as providing deeper insight into how overconfidence influences investment decisions and portfolio performance in different contexts.

2.2 Literature Search Protocol

To ensure that the literature review conducted in this study was comprehensive and methodical, literature search protocol a structured and systematic system has been developed. This protocol includes a variety of steps designed to identify, select, and evaluate the most relevant and high-quality literature, in order to answer research questions related to impact overconfidence on portfolio performance for retail and institutional investors.

Search Strategy

The literature search strategy begins with determining the sources that will be used for data collection. In this study, major academic databases such as Scopus and Web of Science were chosen because of its credibility and broad scope in providing high quality and internationally recognized articles. Besides that, Google Scholar is also used as a complement to capture articles that may not be indexed in major databases, including publications from conferences, work reports, and recent studies that have not yet been published in journals but are of high relevance.

2.3 Keywords

The keywords used in the literature search were carefully formulated to cover various aspects of the research topic. The main keywords used include:

- Overconfidence
- Investment decisions
- Portfolio performance
- Retail investors
- Institutional investors
- Behavioral finance

These keyword combinations are arranged using Boolean operators (AND, OR) to increase search accuracy, such as Overconfidence AND portfolio performance or Behavioral finance AND institutional investors. Additionally, searches were conducted across a wide variety of terms and synonyms to ensure broad coverage and inclusivity of search results.

2.4 Inclusion and Exclusion Criteria

Inclusion and exclusion criteria were applied to filter the search results, so that only the most relevant and high-quality studies were included in the literature review.

2.4.1 Inclusion Criteria:

1. Topic Relevance: Studies that directly discuss overconfidence in the context of investment decisions and portfolio performance.
2. Publication Type: Articles published in peer-reviewed journals, conference proceedings, and credible research reports.
3. Language: Articles written in English to ensure readability at an international level.
4. Time Period: Studies published within the last ten years to capture recent developments in the literature.

2.4.2 Exclusion Criteria:

1. Access Limitations: Studies for which the full text is not accessible or are only available in abstract form.

2. Not Relevant: Articles that discuss overconfidence in a non-investment context or not directly related to portfolio performance.
3. Low Quality: Studies that have not gone through a peer-review process or have weak methodology and are not supported by valid empirical data.

2.5 Selection Process

After the articles are collected, the first stage in the selection process is screening the title and abstract to determine initial relevance to the research topic. Articles that pass this stage are then reviewed further through full-text reading to ensure that they meet all predetermined inclusion criteria. The selected articles are then analyzed in depth to be evaluated in terms of methodology, results and contribution to understanding overconfidence and its impact on portfolio performance. By applying literature search protocol This research seeks to ensure that all literature included in the analysis is representative, relevant, and supports efforts to answer the research questions comprehensively and accurately.

2.5.1 Study Selection Procedures

The study selection procedures in this research were designed to ensure that the articles included in the study were: systematic literature review (SLR) is the most relevant and high quality. This procedure involves several key steps, which use PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) as the main guideline for screening articles systematically and transparently. The following is a detailed explanation of the screening and article selection process applied:

1. Initial Screening Process

Title and Abstract Screening: After the literature search process, the first step is to screen the titles and abstracts of the identified articles. At this stage, articles that did not appear to be relevant to the research topic or that clearly did not meet the inclusion criteria were excluded. This filtering aims to filter out articles that do not match the main focus of the research, namely impact overconfidence on portfolio performance.

Use of Inclusion and Exclusion Criteria: Articles that pass title and abstract screening are then evaluated using predetermined inclusion and exclusion criteria. These criteria include topic relevance, publication type, language, and time period. Articles that meet all inclusion criteria and do not meet exclusion criteria will be selected for the next stage.

2. Full Text Selection

Full Text Check: Articles that pass the initial screening are then read thoroughly to ensure their suitability for the research focus. This process involves evaluating the methodology, relevance of the content, and quality of the data presented in the article. At this stage, articles that provide in-depth and relevant information regarding overconfidence and portfolio performance will be considered for inclusion in the systematic review.

Quality Evaluation: Each article accepted at this stage is evaluated based on its methodological quality. This includes an assessment of the research design, analysis methods, and the reliability and validity of the results. Articles with strong methodology and reliable data will be given priority.

3. Use of PRISMA

PRISMA Flowchart: To increase transparency and accuracy in the selection process, this research uses PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). PRISMA flow diagrams are used to document and report the steps in the literature selection process. This diagram includes:

- Identification: Number of articles found from the literature search.
- Screening: Number of articles filtered based on title and abstract.
- Qualification Assessment: Number of articles evaluated based on full text.

- Inclusion: The number of articles ultimately included in the systematic literature review.

4. Consolidation and Categorization

Consolidation of Findings: After the selection process, the selected articles will be consolidated and categorized based on main themes and sub-topics relevant to the research. This allows for a structured synthesis of the existing literature, as well as the identification of patterns and gaps that are important to explain.

Analysis and Synthesis: The categorized articles are then analyzed in depth to synthesize key findings, compare results between different studies, and evaluate the contribution of each study to the understanding of overconfidence and its impact on portfolio performance. By following this systematic and structured study selection procedure, this research aims to ensure that only the most relevant and high-quality articles are included in the literature review, resulting in a comprehensive and reliable analysis.

2.6 Data Analysis Techniques

After the literature selection and filtering process, the next step in this research is data analysis from the selected studies. These analysis techniques are designed to systematically synthesize findings from various studies, as well as to evaluate and compare the impact of overconfidence on portfolio performance for retail and institutional investors. The techniques used include:

1. Thematic Synthesis

Thematic synthesis was the main technique applied in the analysis of this data. This technique involves:

- **Identify Key Themes:** Compile and organize data from selected studies based on relevant key themes, such as the impact of overconfidence, differences between retail and institutional investors, and consequences for portfolio performance. These themes were derived through in-depth reading and categorization of findings from each study.
- **Data Coding:** Relevant data was grouped and coded according to identified themes. This process involves tagging and grouping information based on certain categories, such as factors that influence overconfidence and its impact on investment decisions.
- **Compilation of Thematic Synthesis:** After coding, the grouped data is synthesized to identify common patterns, differences, and similarities in the findings of the various studies. This synthesis helps in building a comprehensive picture of the impact of overconfidence on portfolio performance and identifies areas that require further research.

2. Meta-Analysis (If Possible)

If the data collected is adequate and homogeneous enough, a meta-analysis will be carried out to:

- **Quantifying Effects:** Using statistical techniques to quantify the size effect of overconfidence on portfolio performance. Meta-analysis allows combining results from different studies to produce more accurate estimates of the impact of overconfidence.
- **Variability Analysis:** Analyze the variability of results between studies to understand differences in the impact of overconfidence across contexts and conditions. This involves assessing factors that might influence the results, such as differences in research methods or study populations.
- **Homogeneity Testing:** Testing the homogeneity of data to ensure that the studies analyzed are similar enough in terms of design and variables measured.

If heterogeneity is high, further analyzes will be performed to explore the source of the differences.

2.7 Validity and Reliability

To ensure that this systematic review process has high validity and reliability, several important steps were taken:

1. Validity

- **Rigorous Screening and Selection Process:** Uses clear inclusion and exclusion criteria and systematic selection procedures to ensure that only relevant, high-quality studies are included in the review.
- **Study Quality Assessment:** Each study was evaluated based on methodology and data quality. This involves an examination of the research design, analysis methods, and relevance of the findings to the research focus.
- **Utilization of PRISMA:** Use PRISMA guidelines to ensure that the entire review process is carried out with transparency and accuracy. This helps in documenting the selection and analysis process in a clear and structured manner.

2. Reliability

- **Double-Checking:** The review process is carried out by double checking to ensure consistency in assessment and data analysis. It involves two or more independent assessors evaluating and confirming results simultaneously to reduce bias and ensure accuracy.
- **Internal Peer Review:** Conduct internal peer reviews among research team members to obtain critical feedback and ensure that interpretation and synthesis of findings are conducted objectively. This peer review helps in identifying and addressing potential weaknesses in the analysis and synthesis process.
- **Use of Checklists:** Use standard checklists and guidelines to ensure that all important aspects of the review process have been considered and implemented in accordance with best practices in systematic literature reviews.

By applying rigorous data analysis techniques and steps to ensure validity and reliability, this research aims to provide accurate, reliable and relevant results regarding the impact of overconfidence on portfolio performance for retail and institutional investors.

3. Results (Results)

3.1 Description of Key Findings

The results section of this research presents the main findings of systematic literature review that has been done, with a focus on impact overconfidence on portfolio performance among both retail and institutional investors. These findings provide an in-depth picture of how overconfidence influences investment decisions and portfolio returns in these two groups of investors. The following is a description of the main results found:

1. Impact of Overconfidence on Retail Investors

Research has been conducted on overconfidence among retail investors and shows a significant negative impact on portfolio performance. Research reveals that overconfident investors often engage in high-frequency trading, which can increase transaction costs and ultimately reduce long-term investment returns. For example, overconfidence can lead to overestimation of the accuracy of private information, leading to excessive trading activity that is detrimental to portfolio performance due to associated transaction costs (Pütz & Ruenzi, 2011). In addition, overconfidence can cloud judgment, leading to impulsive investment decisions that lack in-depth analysis (Momen et al., 2017). The tendency for overconfidence to

encourage high trading frequency is supported by findings from Rahman & Gan (2020), which show that overconfidence can lead to rejection of common decision-making practices, exacerbating poor investment outcomes.

The literature consistently shows that overconfident investors tend to underperform compared to the market. Khan's (2023) research confirms that overconfidence significantly influences the decision-making process, often leading to suboptimal investment choices and a lack of diversification. Kumar & Goyal (2016) also support this view, showing that overconfident investors often engage in excessive trading, which can result in poor decision outcomes and lower portfolio performance. Pikulina et al. (2017) highlight that overconfidence can lead to suboptimal choices, even in high-risk investment scenarios, highlighting the pervasive risks associated with this behavioral bias.

The role of experience and knowledge in moderating the effects of overconfidence is also very important. Studies show that less experienced investors exhibit higher levels of overconfidence, which can lead to irrational decision making. Ahmad & Shah (2020) found that financial literacy can function as a moderating factor, improving the quality of investment decisions among overconfident investors. This finding is in line with research by Nareswari et al. (2021), who assert that investors with self-perceived competence are more likely to engage in active trading, often resulting in negative consequences. Apart from that, research by Adiputra et al. (2021) emphasizes that overconfidence can greatly distort judgments, especially among investors who lack knowledge or experience.

In conclusion, the existing evidence strongly supports the assertion that overconfidence has a negative impact on retail investor portfolio performance through increased trading frequency and suboptimal decision making. Additionally, the extent to which this impact is influenced by investors' experience and financial literacy, suggests that increased knowledge can mitigate some of the detrimental effects of overconfidence.

2. Impact of Overconfidence on Institutional Investors

The impact of overconfidence on institutional investors has complex dimensions, including positive and negative influences. Overconfidence, characterized by excessive confidence in an individual's knowledge and predictive abilities, can lead to significant errors in decision making and increased risk-taking behavior among investors. However, institutional investors often have better risk management frameworks that can mitigate the detrimental effects of these biases. For example, institutional investors such as pension funds adjusted their portfolios in response to market crises by shifting to less risky assets, demonstrating their ability to manage risk effectively despite possible overconfidence in their investment choices (Lee et al., 2022). This suggests that although overconfidence may exist, a structured risk management process can help stabilize portfolio performance.

Furthermore, the stability of portfolio performance among institutional investors is supported by empirical findings. Research by Khan et al. (2017) shows that institutional investors' decisions are influenced by their perceptions of past portfolio results, which can lead to overconfidence. However, their systematic approach to portfolio management often produces more stable results compared to individual investors, who may not have as close oversight. This stability can be attributed to the procedures and policies that have been implemented by institutional investors, which function to moderate the effects of overconfidence.

Access to superior information and extensive professional experience further complicates the relationship between overconfidence and institutional investors. Institutional investors typically have access to comprehensive market data and analytical resources, which can enhance their ability to accurately assess risks and opportunities. However, this access can also exacerbate overconfidence, as noted by Adebambo & Yan (2018), who argue that overconfident investors may tend to invest in companies with uncertain prospects, in the belief

that they can handle this complexity better than others. . This duality illustrates that although institutional investors may be better equipped to deal with the consequences of overconfidence, they are not immune to its effects.

In conclusion, the impact of overconfidence on institutional investors is financial. Although it can lead to riskier behavior and decision making errors, having strong risk management practices and access to superior information can help reduce these risks. The interaction between overconfidence and institutional investors' decision-making processes highlights the importance of understanding behavioral biases in the financial context.

3. Comparison of the Impact of Overconfidence between Retail and Institutional Investors

The influence of overconfidence on investment decision making and portfolio performance varies significantly between retail and institutional investors. Understanding these differences is critical to understanding behavioral finance and the mechanisms that govern investor behavior.

3.1 Differences in Decision Making and Performance

Retail investors often exhibit higher levels of overconfidence compared to institutional investors, which can lead to suboptimal decision making and poorer portfolio performance. Research shows that retail investors tend to overestimate their knowledge and abilities, resulting in excessive trading and poor investment results. For example, overconfident investors often engage in more trades, which can reduce their overall returns (Liu & Tan, 2019). In contrast, institutional investors, who usually have greater resources and analytical capabilities, are better equipped to reduce the impact of overconfidence through structured decision-making processes and risk management strategies (Chuang & Susmel, 2011). This finding is supported by research showing that individual investors are generally less experienced and more prone to overconfidence than their institutional counterparts (Chuang & Susmel, 2011).

3.2 General Trends and Patterns

The literature reveals a consistent pattern in which overconfident retail investors often experience negative investment returns. For example, overconfidence can lead to higher trading volumes, which are often associated with poor performance due to mispricing and excessive risk taking (Abreu & Mendes, 2012). Furthermore, research shows that although both retail and institutional investors can exhibit overconfidence, the latter group tends to have mechanisms that help them overcome pitfalls related to this bias (Jaiyeoba et al., 2019). This is especially visible in the context of market behavior, where institutional investors can leverage their access to information and analytical tools to make more informed decisions, thereby reducing the detrimental impact of overconfidence.

In conclusion, the evidence shows that overconfidence has a more pronounced negative impact on retail investors compared to institutional investors. Although both groups can be affected by overconfidence, the structured approach and risk management strategies adopted by institutional investors significantly protect them from the adverse effects of this bias. This study emphasizes the importance of understanding these differences, as they can influence investment practices and guide future research in behavioral finance. These findings encourage better educational initiatives for retail investors to help them recognize and reduce the effects of overconfidence in their investment strategies.

3.3 Comparative Analysis of the Impact of Overconfidence between Retail and Institutional Investors

This section outlines a comparative analysis of impacts **overconfidence** on portfolio performance between retail and institutional investors. The primary focus is to highlight significant differences found in the results of the studies reviewed as well as identify factors influencing these differences. This analysis aims to provide a deeper understanding of how overconfidence influences investment decisions and portfolio results in both groups of investors.

1. Impact of Overconfidence on Retail Investors

Overconfidence is a behavioral bias that has been widely documented and has a significant impact on retail investors, with a number of distinctive patterns that differentiate it. One of the main characteristics of overconfidence is overestimation or exaggerating one's own investment capabilities. Retail investors often display overconfidence in their decision-making abilities, which are often not supported by comprehensive data or in-depth analysis. This overconfidence can lead to the belief that they can consistently outperform the market, despite evidence to the contrary (Barber & Odean, 2000). Additionally, this excessive self-assessment often results in high trading frequency, as these investors engage in more transactions than necessary, driven by the belief that they can effectively predict market movements. This behavior not only leads to higher transaction costs but also tends to produce suboptimal investment returns (Pütz & Ruenzi, 2011; Barber & Odean, 2000).

The implications of overconfidence extend beyond individual trading behavior and negatively impact overall portfolio performance. Research shows that overconfident retail investors typically experience lower portfolio returns compared to their more rational counterparts. This phenomenon can be attributed to several factors, including suboptimal decision-making processes, inadequate diversification, and a tendency to overreact to market fluctuations (Fuertes et al., 2012). For example, studies show that excessive trading driven by overconfidence can result in increased transaction costs, which reduces potential profits and ultimately reduces portfolio performance (Pütz & Ruenzi, 2011; Barber & Odean, 2000). In addition, the tendency of overconfident investors to chase stocks with high volatility, which are often considered more profitable, further exacerbates the risk of poor investment results (Han & Kumar, 2013).

Furthermore, the literature shows that overconfidence can result in a lack of diversification in an investment portfolio. Overconfident investors are more likely to concentrate their investments on a limited number of stocks, often those they believe they can predict better, which increases their exposure to idiosyncratic risks (Fuertes et al., 2012). This behavior is exacerbated by retail investors' tendency to react impulsively to market news, leading to overreactions that can disrupt their investment strategies (Barber & Odean, 2000). The cumulative impact of these behaviors results in significant performance differences between overconfident retail investors and those who adopt a more measured and analytical investment approach.

In conclusion, overconfidence among retail investors manifests through excessive self-assessment, high trading frequency, and ultimately leads to poorer portfolio performance due to suboptimal decision making and lack of diversification. Empirical evidence consistently supports the idea that these behavioral biases have a detrimental effect on investment outcomes, underscoring the importance of recognizing and mitigating the influence of overconfidence in retail investing.

2. Impact of Overconfidence on Institutional Investors

Institutional investors exhibit unique behavior influenced by overconfidence, which can differ significantly compared to individual investors. One important aspect of this behavior is

their ability to implement better risk management strategies. Institutional investors often have access to advanced analytical tools and comprehensive data, allowing them to mitigate the adverse effects of overconfidence through rigorous risk assessment and management. Research shows that although institutional investors may experience overconfidence, a structured decision-making process helps them maintain a balanced approach to risk, thereby improving overall investment performance (Fahim et al., 2019; Adebambo & Yan, 2018).

Additionally, the influence of overconfidence on strategic decisions among institutional investors tends to be more pronounced in the context of long-term investments compared to high-frequency trading. This is due to their focus on thorough analysis and strategic planning, which can lead to different impacts on portfolio performance. Studies show that institutional investors are less likely to engage in excessive trading driven by overconfidence, which is often seen in individual investors. Instead, they tend to make more measured decisions that reflect a deeper understanding of market dynamics (Chuang & Susmel, 2011; Park & Chung, 2016).

In terms of portfolio performance stability, institutional investors generally show more consistent results despite overconfidence. The combination of skilled analysis and a strong management team contributes to this stability. Institutional investors often use a systematic approach that reduces the possibility of making impulsive decisions based on overconfidence. Findings suggest that institutional investors, thanks to their professional environment and collaborative decision-making structures, tend to be less prone to irrational behavior typically associated with overconfidence, such as excessive trading or risk-taking (Pikulina et al., 2017; Chung et al., 2015).

Overall, although overconfidence may influence institutional investors' decision-making processes, their access to resources, analytical capabilities, and structured risk management practices enable them to navigate these biases more effectively compared to individual investors. This results in more stable and strategic investment performance, highlighting the importance of institutional frameworks in reducing risks associated with behavioral biases (H, 2023; Alsabban & Alarfaj, 2020).

3. Comparison of the Impact of Overconfidence

Overconfidence is a well-documented behavioral bias that has a significant impact on investment decisions for both retail and institutional investors. Comparative analysis reveals striking differences in the way overconfidence affects portfolio performance and risk management strategies between these two groups.

Table 2. Comparison of the Impact of Overconfidence

Aspect	Retail Investors	Institutional Investors
Portfolio Performance	Shows a higher level of overconfidence.	Have a better risk management framework.
	Tends to overestimate the ability to predict market movements.	Implement systematic strategies such as diversification and in-depth risk analysis.
	Experienced more volatile and less satisfactory returns than the market average.	Reducing the bad effects of overconfidence on portfolio performance (Jaiyeoba et al., 2019; Chuang & Susmel, 2011).
	Engaging in high frequency trading, leads to higher transaction costs and lower returns (Daniel & Hirshleifer, 2015; Trinugroho & Sembel, 2011; Adebambo	

Aspect	Retail Investors	Institutional Investors
Management and Mitigation Strategy	& Yan, 2018; Gao, 2022).	
	Lack of a sophisticated risk management strategy.	Implement a structured approach with comprehensive risk assessment tools and strict investment guidelines.
	Ignoring important market signals and relying on subjective judgments, leading to poor investment decisions (Rahmawati, 2023; Boubaker & Talbi, 2013; Kansal & Singh, 2018).	Utilize a collaborative decision-making environment that neutralizes individual biases (Ahmad & Shah, 2020; Pütz & Ruenzi, 2011; Ataullah et al., 2017).

Source: Processed Data, 2024

Although both retail and institutional investors show overconfidence, the consequences and management strategies differ significantly. Retail investors are more susceptible to the adverse effects of overconfidence due to a lack of effective risk management strategies, leading to poorer portfolio performance. In contrast, institutional investors, equipped with systematic mitigation strategies, can better control the impact of overconfidence on their investment decisions.

4. Factors Influencing Differences

The analysis shows several factors influencing this difference:

- Access to Information: Institutional investors have better access to in-depth market information and analysis, which helps them make more informed decisions even though they may experience overconfidence.
- Experience and Knowledge: Institutional investors tend to have broader experience and knowledge, which can reduce the negative impact of overconfidence compared to retail investors.

5. Practical Implications

These findings have practical implications for portfolio management and investment strategies. Retail investors can benefit from a more cautious managerial approach and risk mitigation strategies, while institutional investors need to continue to pay attention to the potential impact of overconfidence and ensure that their decision-making processes remain objective and well-informed. By identifying significant differences in the impact of overconfidence between retail and institutional investors, this analysis provides important insights into how both groups of investors can manage and overcome this cognitive bias to achieve better investment outcomes.

5.1 Thematic Synthesis

Table 1. Thematic Synthesis

Main Theme	Description	Strengthening Factors	Weakening Factors	Market Conditions
Individual Psychological Influence	Understand how overconfidence affects investment decisions and portfolio results.	- Excessive confidence in one's abilities - Cognitive biases such as	- Education and training increase self-awareness - Cognitive bias	- Highly volatile market conditions can reinforce excessive confidence in retail

Main Theme	Description	Strengthening Factors	Weakening Factors	Market Conditions
		confirmation bias and halo effect	mitigation techniques	investors.
Experience and Knowledge	The influence of investor experience and knowledge on the effects of overconfidence in making investment decisions.	- Dunning-Kruger effect of limited knowledge - Lack of deep experience	- Continuing education program - Improved analytical and market knowledge	- An upward or stable market trend may strengthen self-confidence in investors with limited knowledge.
Limitations in Resources	The influence of limited access to information and financial resources on overconfidence.	- Limited access to information - Limited financial resources	- Access to better market information - Effective risk management strategy	- Uncertain or evolving market conditions can reduce the impact of limited information on institutional investors.
Risk Management and Diversification	How risk management strategies and portfolio diversification can influence the impact of overconfidence.	- Insufficient portfolio diversification - Lack of risk mitigation strategies	- Effective diversification - Use of strict risk management strategies	- Volatile markets can increase the need for good risk mitigation strategies.
Access to Information and Analysis	Differences in access to analytical tools between retail and institutional investors, and their impact on overconfidence.	- Limited access to market information - In-depth analysis	- Access to in-depth market information - Use of advanced analysis tools	- Better access to information can help institutional investors manage the impact of overconfidence during significant market changes.
Economic Trends and Cycles	The impact of economic cycles and market trends on the level of overconfidence and investment decisions.	- Confidence increases during periods of strong economic growth	- Adaptation to changes in the economic cycle - Adaptive managerial strategy	- Economic cycles and market trends may influence levels of overconfidence, with periods of growth possibly strengthening feelings of confidence.

Source: Processed Data, 2024

The table above presents the main themes, factors that strengthen or weaken the effects of overconfidence, as well as market conditions that influence these dynamics. This facilitates understanding and analysis of how various elements interact and influence portfolio performance in the context of overconfidence.

4. Discussion

4.1 Interpretation of Findings

In this section, we will discuss the implications of findings from research on influence overconfidence on portfolio performance, with a focus on comparisons between retail and institutional investors. This interpretation aims to provide an in-depth understanding of how overconfidence influences investment decisions and portfolio results, as well as its impact on theory and practice behavioral finance.

4.1.1 Implications for Behavioral Finance Theory

a. The Relevance of Overconfidence in Behavioral Finance Theory

- **Confirmation Bias and the Halo Effect:** Research findings underscore the importance of cognitive biases such as overconfidence, confirmation bias, and the halo effect in behavioral finance theory. These biases play a role in how investors assess their abilities and make investment decisions. Excessive self-confidence tends to cause investors to underestimate risk and make less than optimal investment decisions, in accordance with findings from a literature review which shows that overconfidence often leads to **trading** excess and unfavorable portfolio results.
- **Dunning-Kruger effect:** This research corroborates the Dunning-Kruger effect, where investors with limited knowledge are more likely to have excessive self-confidence. This supports the theory that a lack of knowledge can exacerbate overconfidence bias, leading to less rational decision making and poorly managed risks.

b. Contributions to Theory Development

- **Difference between Retail and Institutional Investors:** The research findings clarify significant differences in the impact of overconfidence between retail and institutional investors, which have not previously been widely discussed in the literature. Institutional investors, with better access to information and resources, show greater resilience to the effects of overconfidence. This research contributes to theory development by highlighting how more sophisticated portfolio management structures and better access to information can reduce the negative impact of overconfidence.

4.1.2 Implications for Portfolio Management Practices

a. Overconfidence Mitigation Strategy

- **Risk Management and Diversification:** Findings show that portfolio diversification and implementing strict risk mitigation strategies can help reduce the negative impact of overconfidence, especially on institutional investors. For retail investors, it is recommended to increase their knowledge and awareness of investment risks, as well as use better analytical tools to support their investment decisions.
- **education and training:** The importance of continuing education and training in reducing overconfidence is also emphasized by these findings. The development of analytical skills and better market understanding can help retail investors manage their cognitive biases effectively, and promote more rational investment decisions.

b. Investment Policy Development

- **Data-Based Investment Policy:** These findings support the need for investment policies that are more data and analysis based to reduce the impact of

overconfidence. Institutional investors who have implemented this policy show better portfolio results. Policies that promote the use of comprehensive data and sophisticated analytical tools can help reduce the influence of overconfidence bias on investment decisions.

- **Increasing Transparency and Access to Information:** For retail investors, increasing transparency and access to better market information can reduce overconfidence and improve the quality of investment decisions. This research highlights the importance of initiatives that support greater access to information and training for retail investors.

4.1.3 Discussion on Comparison of the Impact of Overconfidence

a. Impact on Retail Investors

- **Influence on Investment Decisions:** Findings show that retail investors tend to be more affected by overconfidence compared to institutional investors. Overconfidence among retail investors often leads to more speculative and less prudent investment decisions, which negatively impacts their portfolio performance. This is caused by limited knowledge, experience and access to information.

b. Impact on Institutional Investors

- **Excellence in Portfolio Management:** In contrast, institutional investors, with better access to more in-depth information and analysis, show greater resilience to the impact of overconfidence. They tend to have better risk mitigation strategies and sophisticated analytical tools, which help them in managing their portfolios effectively despite indications of overconfidence.

c. Implications for Investment Policy and Practice

- **Expanding Differential Policies to Retail and Institutional:** These findings emphasize the need for different policy approaches for retail and institutional investors in dealing with overconfidence. Retail investors require additional support in the form of education and access to information, while institutional investors may require better risk management tools and tighter oversight.

5. Conclusion

This research presents important findings regarding impact overconfidence on portfolio performance, with a comparison between retail and institutional investors. The main findings show that overconfidence can significantly influence investment decisions and portfolio returns. For retail investors, overconfidence often leads to high-risk investment decisions and less than optimal results, due to limited knowledge and resources. In contrast, institutional investors, although also affected by overconfidence, can manage the impact more effectively thanks to access to better information and more sophisticated risk management strategies. This comparison provides an important answer to the research question posed, namely how overconfidence affects portfolio performance for both types of investors and the significant differences that exist.

5.1 Contribution and Significance of the Study

This research makes a significant contribution in enriching the literature behavioral finance by filling the knowledge gap about the impact of overconfidence on retail and institutional investors. The main contributions of this study are as follows:

- **Theory Development:** This research expands understanding of how cognitive biases such as overconfidence influence investment decision making and portfolio outcomes, and identifies significant differences between retail and

institutional investors. This provides new insights for the development of behavioral finance theory.

- **Practical Insights:** These findings also have practical significance for the investment community, including investment managers and market regulators. By understanding how overconfidence affects different types of investors, bias mitigation strategies can be developed to improve investment returns and portfolio management.

5.2 Research Limitations

Although this research provides valuable insights, there are several limitations worth noting:

- **Systematic Review Methodology:** Limitations in the systematic review method include dependence on the availability and quality of existing literature. Some relevant studies may not have been included in this review due to database limitations or inclusion and exclusion criteria.
- **Data Limitations:** Data available in the literature may have variability in measurement methods and study context, which may affect the consistency of findings. In addition, there is the possibility of publication bias that influences the results obtained.

5.3 Practical and Theoretical Implications

a. Practical Implications

- **Investment Manager:** These findings indicate the need for better risk management strategies and training for retail investors to reduce the impact of overconfidence. Investment managers can use these insights to design educational programs and analytical tools that help investors manage their cognitive biases.
- **Regulator Pass:** Regulators can consider policies that support information transparency and access to better resources for retail investors, to reduce the negative impact of overconfidence on the market.

b. Theoretical Implications

- **Development of Behavioral Finance Theory:** This research contributes to the development of behavioral finance theory by clarifying the relationship between overconfidence and portfolio performance. These findings can be used to develop new models that take into account the differences between various types of investors in behavioral finance theory.

5.4 Suggestions for Future Research

Based on the findings from this literature review, some recommended future research directions include:

- **Empirical Study:** Empirical research can be conducted to test the hypotheses resulting from this study, such as the specific influence of overconfidence on investment decisions in various market conditions.
- **Exploration of Other Factors:** Further research could explore other factors that influence the relationship between overconfidence and portfolio performance, such as individual psychological influences, economic conditions, and different investment strategies.
- **Global Comparison:** Research can expand geographical and cultural coverage to understand how overconfidence affects investors in different countries and markets, providing a global perspective on this phenomenon.

By identifying and exploring these areas, future research can provide valuable further insights into theory and practice in the field of behavioral finance.

6. References

- Abreu, M. and Mendes, V. (2012). Information, overconfidence and trading: do the sources of information matter?. *Journal of Economic Psychology*, 33(4), 868-881. <https://doi.org/10.1016/j.joep.2012.04.003>
- Adebambo, B. and Yan, X. (2018). Investor overconfidence, firm valuation, and corporate decisions. *Management Science*, 64(11), 5349-5369. <https://doi.org/10.1287/mnsc.2017.2806>
- Adiputra, I. and Rahardjo, T. (2021). Analysis of investment decision making through overconfidence, herding effect, and self-monitoring variable during the covid-19 pandemic in indonesia.. <https://doi.org/10.2991/aebmr.k.210507.028>
- Ahmad, M. and Shah, S. (2020). Overconfidence heuristic-driven bias in investment decision-making and performance: mediating effects of risk perception and moderating effects of financial literacy. *Journal of Economic and Administrative Sciences*, 38(1), 60-90. <https://doi.org/10.1108/jeas-07-2020-0116>
- Ahmad, M. and Wu, Q. (2023). Heuristic-driven biases as mental shortcuts in investment management activities: a qualitative study. *Qualitative Research in Financial Markets*, 16(2), 291-309. <https://doi.org/10.1108/qrfm-10-2022-0167>
- Ataullah, A., Vivian, A., & Xu, B. (2017). Time-varying managerial overconfidence and corporate debt maturity structure. *European Journal of Finance*, 24(2), 157-181. <https://doi.org/10.1080/1351847x.2016.1274266>
- Barber, B. and Odean, T. (2000). Trading is hazardous to your wealth: the common stock investment performance of individual investors. *The Journal of Finance*, 55(2), 773-806. <https://doi.org/10.1111/0022-1082.00226>
- Boubaker, A. and Talbi, M. (2013). The impact of overconfidence on investors' decisions. *Business and Economic Research*, 3(2), 53. <https://doi.org/10.5296/ber.v3i2.4200>
- Chhapra, I., Kashif, M., Rehan, R., & Bai, A. (2018). An empirical investigation of investor's behavioral biases on financial decision making. *Asian Journal of Empirical Research*, 8(3), 99-109. <https://doi.org/10.18488/journal.1007/2018.7.3/1007.3.99.109>
- Chuang, W. and Susmel, R. (2011). Who is the more overconfident trader? individual vs. institutional investors. *Journal of Banking & Finance*, 35(7), 1626-1644. <https://doi.org/10.1016/j.jbankfin.2010.11.013>
- Daniel, K. and Hirshleifer, D. (2015). Overconfident investors, predictable returns, and excessive trading. *Journal of Economic Perspectives*, 29(4), 61-88. <https://doi.org/10.1257/jep.29.4.61>
- Dhakal, S. and Lamsal, R. (2023). Impact of cognitive biases on investment decisions of investors in nepal. *The Lumbini Journal of Business and Economics*, 11(1), 35-48. <https://doi.org/10.3126/ljbe.v11i1.54315>
- Dhungana, B., Bhandari, S., Ojha, D., & Sharma, L. (2022). Effect of cognitive biases on investment decision making: a case of pokhara valley, nepal. *Quest Journal of Management and Social Sciences*, 4(1), 71-84. <https://doi.org/10.3126/qjmss.v4i1.45868>
- Elhussein, N. and Abdelgadir, J. (2020). Behavioral bias in individual investment decisions: is it a common phenomenon in stock markets?. *International Journal of Financial Research*, 11(6), 25. <https://doi.org/10.5430/ijfr.v11n6p25>
- Fuertes, A., Muradoğlu, G., & Öztürkkal, B. (2012). A behavioral analysis of investor diversification. *European Journal of Finance*, 20(6), 499-523. <https://doi.org/10.1080/1351847x.2012.719829>
- Gao, G. (2022). Overconfidence can influence investor behaviours in china. *BCP Business & Management*, 33, 622-627. <https://doi.org/10.54691/bcpbm.v33i.2847>

- Haidari, M. (2023). Impact of decision-making on investment performance: a comprehensive analysis. *J. Asian Dev. Studies*, 12(4), 980-990. <https://doi.org/10.62345/jads.2023.12.4.78>
- Han, B. and Kumar, A. (2013). Speculative retail trading and asset prices. *Journal of Financial and Quantitative Analysis*, 48(2), 377-404. <https://doi.org/10.1017/s0022109013000100>
- Jaiyeoba, H., Abdullah, M., & Ibrahim, K. (2019). Institutional investors vs retail investors. *The International Journal of Bank Marketing*, 38(3), 671-691. <https://doi.org/10.1108/ijbm-07-2019-0242>
- Jaiyeoba, H. and Haron, R. (2016). A qualitative inquiry into the investment decision behaviour of the Malaysian stock market investors. *Qualitative Research in Financial Markets*, 8(3), 246-267. <https://doi.org/10.1108/qrfm-07-2015-0027>
- Kansal, P. and Singh, S. (2018). Determinants of overconfidence bias in Indian stock market. *Qualitative Research in Financial Markets*, 10(4), 381-394. <https://doi.org/10.1108/qrfm-03-2017-0015>
- Khan, S. (2023). Unlocking the investment puzzle: the influence of behavioral biases & moderating role of financial literacy. *Journal of Social Research Development*, 4(2), 433-444. <https://doi.org/10.53664/jsrd/04-02-2023-17-433-444>
- Kumar, S. and Goyal, N. (2016). Evidence on rationality and behavioural biases in investment decision making. *Qualitative Research in Financial Markets*, 8(4), 270-287. <https://doi.org/10.1108/qrfm-05-2016-0016>
- Liu, B. and Tan, M. (2019). Overconfidence and forecast accuracy. *Studies in Economics and Finance*, 38(3), 601-618. <https://doi.org/10.1108/sef-12-2017-0345>
- Momen, O., Esfahanipour, A., & Seifi, A. (2017). Prescriptive portfolio selection: a compromise between fast and slow thinking. *Qualitative Research in Financial Markets*, 9(2), 98-116. <https://doi.org/10.1108/qrfm-11-2016-0044>
- Nareswari, N., Balqista, A., & Negoro, N. (2021). The impact of behavioral aspects on investment decision making. *Jurnal Manajemen Dan Keuangan*, 10(1), 15-27. <https://doi.org/10.33059/jmk.v10i1.3125>
- Pikulina, E., Renneboog, L., & Tobler, P. (2017). Overconfidence and investment: an experimental approach. *Journal of Corporate Finance*, 43, 175-192. <https://doi.org/10.1016/j.jcorpfin.2017.01.002>
- Pütz, A. and Ruenzi, S. (2011). Overconfidence among professional investors: evidence from mutual fund managers. *Journal of Business Finance & Accounting*, 38(5-6), 684-712. <https://doi.org/10.1111/j.1468-5957.2010.02237.x>
- Rahman, M. and Gan, S. (2020). Generation Y investment decision: an analysis using behavioural factors. *Managerial Finance*, 46(8), 1023-1041. <https://doi.org/10.1108/mf-10-2018-0534>
- Rahmawati, F. (2023). A literature review on the influence of availability bias and overconfidence bias on investor decisions. *East Asian Journal of Multidisciplinary Research*, 2(12), 4961-4976. <https://doi.org/10.55927/eajmr.v2i12.6896>
- Ranaweera, S. and Kawshala, B. (2022). Influence of behavioral biases on investment decision making with moderating role of financial literacy and risk attitude: a study based on Colombo stock exchange. *South Asian Journal of Finance*, 2(1). <https://doi.org/10.4038/sajf.v2i1.32>
- Sattar, M., Toseef, M., & Sattar, M. (2020). Behavioral finance biases in investment decision making. *International Journal of Accounting Finance and Risk Management*, 5(2), 69. <https://doi.org/10.11648/j.ijafm.20200502.11>
- Seraj, A., Alzain, E., & Alshebami, A. (2022). The roles of financial literacy and overconfidence in investment decisions in Saudi Arabia. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.1005075>
- Shahani, R. and Ahmed, S. (2023). Psychological and social factors determining investment decisions in cryptocurrency: exploring the mediating role of cognitive biases. *Journal of Organisational Studies and Innovation*, 9(4), 25-45. <https://doi.org/10.51659/josi.22.159>

- Trinugroho, I. and Sembel, R. (2011). Overconfidence and excessive trading behavior: an experimental study. *International Journal of Business and Management*, 6(7). <https://doi.org/10.5539/ijbm.v6n7p147>
- Trinugroho, I. and Sembel, R. (2011). Overconfidence and excessive trading behavior: an experimental study. *International Journal of Business and Management*, 6(7). <https://doi.org/10.5539/ijbm.v6n7p147>
- Zhang, M., Nazir, M., Farooqi, R., & Ishfaq, M. (2022). Moderating role of information asymmetry between cognitive biases and investment decisions: a mediating effect of risk perception. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.828956>