The Moderation Role of Risk Perception in the Influence of Heuristic Behavior on Investment Decisions in The Emerging Countries: A Case in Indonesia

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Abstract. The purpose of this study is to investigate how heuristic biases affect investing choices and how risk perception functions as a moderating factor in this connection. In this study, 200 millennial investors in the Indonesian capital market are surveyed using a quantitative methodology. Questionnaires were used to gather data, and SPSS software was used to perform Moderated Regression Analysis (MRA). The findings show that heuristic biases significantly influence investment decisions. Additionally, moderation analysis reveals that risk perception moderates the connection between investing choices and heuristic biases. These results imply that investors, risk perceptions can either strengthen or weaken the influence of cognitive biases in investment decision making. The implications of these findings are valuable for investors, financial managers, and capital market educators in understanding the important role of risk perception control in reducing the influence of decision biases. This finding contributes to the extant literature by highlighting risk perception as a boundary condition in the bias decision nexus, a relationship that has been relatively underexplored in prior research.

Keywords: Heuristics Behavior, Investment Decisions, Risk Perception, Cognitive Bias, Investment Decision-Making

1 INTRODUCTION

For investors, investment decision making is an important process that is influenced by various circumstances. Individual investors use these criteria individually, and they use them differently. Some make decisions based on their judgment and take most of the considerations into account. When investors can identify all the potentially complex outcomes, the decision-making process becomes easier. These results help them in making the best choices and minimize potential future losses. During the process of making investment decisions, investors are faced with a large number of complex issues such as viewpoint overload, ambiguity, perception, and risk. Experienced investors, financial experts and, in particular, private families are used to dealing with this problem.

Globally, investment in practice has experienced a very sharp decline in almost all countries. This happened as a result of the Covid-19 pandemic phenomenon around the world. As in the 2021 World Investment Report it has been stated that Foreign Direct

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Investment (FDI) in 2020 was at its lowest level since 2005 and was almost 20% lower than the 2009 trough when the global financial crisis occurred. In addition, the Covid-19 pandemic has also affected the stock market. Many experts and analysts believe that the current COVID-19 epidemic is to blame for the global financial markets' decline, which has resulted in a turbulent and unfavorable overall market response. As study [1] discovered that even from the beginning of COVID-19, stock market returns for the majority of nations showed poor to negative returns due to increased volatility. Returns are rising in the latter stages of COVID-19, but volatility is still significant. This is due to the imposition of social restrictions or lockdowns in most countries.

A little different Compared to other countries, the condition of the capital market in Indonesia has experienced rapid growth number of investors. Even the number of capital market investors in Indonesia is said to be has experiencing a drastic increase, adapting to new habits by working and earning income from home through digital devices, encouraging a surge in the number of investors in the capital market [2]. The investor's decision-making process is not entirely logical in practice. Despite the fact that investors have collected and carefully examined important information or data, mental and emotional variables still play a role. It is quite difficult to separate. Sometimes it may be useful, but often leads to lower decision outcomes [3].

Study about heuristic biases in Indonesia have conducted by [4] in Malang city shows overconfidence have have effect positive on decision investment. Whereas study other show there is influence good positive nor negative Among herd behavior and heuristics to decision investation millennials in the city of Semarang [5]. As for research in the city of Surabaya by [6], the results from study this confirm that individual investors in Indonesia for COVID-19 pandemic behave no rational in take decision investments that are affected by heuristic biases. According to [7] Behavioral factors have a significant impact on investors' decisions, especially investors in the next generation millennials in Nigeria. Besides that, result observation indicates that overconfidence (one of the the factors under heuristic are factors that underlie the high presence of other behavioral factors in millennial investors. because of it, refers to [8] who argues that Mastering financial management behavior is very important, especially for the millennial generation. This is because good financial management behavior can balance expenses and prevent difficulties.

From empirical research, it has been found that research on the millennial generation regarding heuristic biases in making investment decisions in Indonesia is still not widely done. because of that, the solution model or hybrid model in research this expected later could give information for investors, especially generation millennial in make decision investment. Investment decisions are complex processes influenced by psychological factors such as heuristic biases [9]. Many previous studies have proven that heuristic biases influence investment behavior, but the results are often inconsistent. Although risk perception has been extensively studied in the context of financial decision-making, most studies have only placed it as an independent variable or as a mediator, not as a moderator [10-11]. In reality, however, an individual's perception of risk in an investment situation can influence the strength of heuristic biases and encourage investment decision-making [12].

In addition, the geographical context and level of economic development of a country also contribute to shaping investors' risk perceptions. Investors in emerging countries tend to have different expectations and perceptions of risk compared to investors in developed (non-emerging) countries, due to differences in market stability, regulation, financial literacy, and experience with economic volatility [13-14]. The aim of this study is to investigate how heuristic biases influence investment choices and how risk perception serves as a moderating factor in this regard. However, to date, there has been very limited research comparing the moderating role of risk perception in cross-country contexts such as between emerging and non-emerging countries. Therefore, there is an important need to explore how risk perception acts as a moderating variable in the relationship between heuristic biases and investment decisions.

2 Methods

The study utilizes an explanatory survey method with a sample of 200 millennial investor respondents, collected through questionnaires. The data analysis is conducted using Moderated Regression Analysis (MRA) with the support of SPSS software. For data collection, a questionnaire is employed to gather relevant responses from the participants. The sampling technique used in this research is Probability Sampling, ensuring that every member of the population has an equal chance of being selected for the sample. Specifically, an Accidental Simple Random Sampling method is applied, which involves choosing participants who are conveniently available or found at the time of the study. This approach ensures a broad representation of the millennial investor group, offering insights into their investment behaviors and decision-making processes. The study aims to provide a comprehensive understanding of the factors influencing millennial investors, with a focus on statistical methods to analyze the data effectively.

3 Results and Discussion

Variable Dependent in study this that is heuristic behavior (X) while for variable Independent is investment decisions (Y) and variable moderation is risk perception (Z). The present study explores the potential moderating effect of risk perception on the influence of heuristic biases on investment decisions. The regression result seen in table 1 below.

Table 1. Regression Results with Robust Standard Errors

Predictor	Coefficient	SErobust	*t*	*p*
(Intercept)	0.0868	0.0309	2.81	0.005 **
Heuristic Biases (X1)	0.1567	0.0902	1.74	0.083 †

Risk Perception (m)	0.5124	0.0750	6.83	< 0.001 ***
X1 × m	−0.1095	0.0204	−5.38	< 0.001 ***

Source: Author's work

Multiple $R^2 = 0.770 \Rightarrow$ adding interaction terms improves the clarity of the model ± 1,3 pp compared to the unmoderated model, interpretation:

1. Negative interaction coefficient ($\beta = -0.109$) shows that the effect of Heuristic Biases weakens when Risk Perception increases.
2. In standard deviation units (variables have been standardized) as seen in table 2:

Table 2. Regression Results with Robust Standard Errors

Conditiont *m*	total effect X1 → y
m = –1 SD	0.157 + (–0.109 × –1) ≈ +0.266
m = 0	+0.157
m = +1 SD	0.157 (–0.109 × +1) ≈ +0.047

Heuristic Biases have a strong impact on investment decisions when risk perception is low, but their impact is almost non-existent when risk perception is high.

3. Risk Perception remains the strongest direct predictor ($\beta \approx 0.51$), confirming its central role in investment decisions as seen in Fig.1.

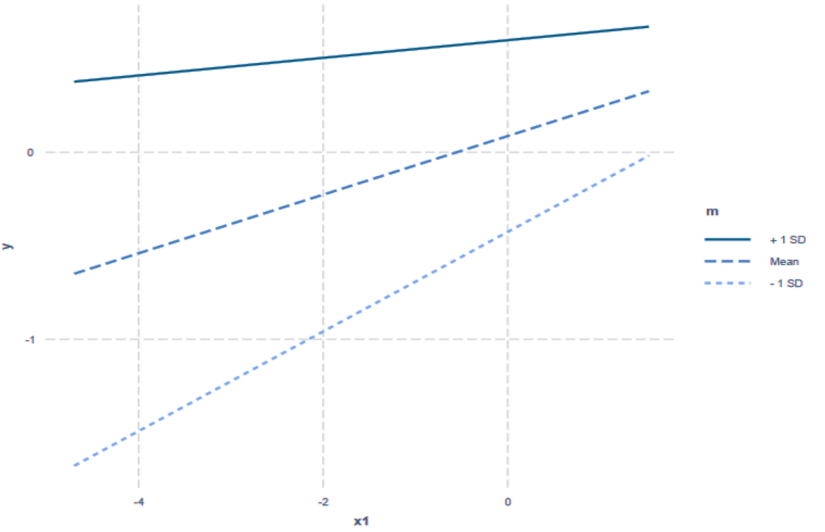

Fig. 1. Partial conclusion

The addition of risk perception as a moderating variable enhances our understanding of investor behavior, as it acts as an effective "brake." This mechanism moderates the impact of heuristic biases such as overconfidence or herding on investment decisions, making investors more cautious and rational, and reducing excessive risk-taking driven by emotions or cognitive oversimplifications.

Risk perception is not merely a mathematical calculation or rational analysis but also encompasses an individual's beliefs, values, and social norms [15]. Investors may perceive the same level of risk differently depending on their experience, knowledge, and background. Previous research further indicates that risk perception mediates the relationship between heuristic biases and investment decisions [16]. Millennials' mental shortcuts (heuristics) in financial product research and predictions tend to be influenced by their attitudes toward imitating others, regret, losses, and how they approach gains and losses in their product portfolios.

Previous research has shown that personality factors can moderate the relationship between heuristic bias and investment behavior [17]. Broader social and environmental factors have also been examined in the context of e-filing among taxpayers, where perceived functional benefits were found to mediate decision-making [18]. In emerging and non-emerging countries, the influence of heuristic biases on investment decisions through risk perception may differ according to the level of capital market development, investors' financial literacy, and macroeconomic stability. This perspective is consistent with previous findings indicating that higher levels of financial literacy can help mitigate the adverse effects of overconfidence [19]. Investors with adequate risk understanding are able to balance these bias tendencies, resulting in wiser and more measured decisions.

4 CONCLUSION

Based on results research that is empirical that heuristic biases significantly influence investment decisions. Additionally, moderation analysis reveals that risk perception moderates the relationship between heuristic biases and investment decisions. These findings suggest that investors, risk perceptions can either strengthen or weaken the influence of cognitive biases in investment decision-making. The findings of this study offer substantial empirical evidence that heuristic biases play a considerable role in investment decision-making, thereby reinforcing the fundamental tenets of behavioral finance theory. These theories challenge the assumptions of investor rationality posited in classical finance models. The observed moderating effect of risk perception further extends the theoretical understanding by elucidating the conditions under which cognitive biases exert stronger or weaker influences. Specifically, elevated levels of risk perception appear to mitigate the impact of heuristic biases by promoting more deliberate evaluation processes. Conversely, low levels of risk perception appear to amplify susceptibility to such biases. This finding contributes to the extant literature by highlighting risk perception as a boundary condition in the bias decision nexus, a relationship that has been relatively underexplored in prior research.

References

1. Haldar, A., Sethi, N.: The news effect of COVID-19 on global financial market volatility. Buletin Ekonomi Moneter dan Perbankan 24, 33–58 (2021).
2. bandung.kompas.com: Investor di Jabar naik 153 persen pada 2021, mayoritas milenial. Kompas.com (2022).
3. Kannadhasan, M.: Role of behavioural finance in investment decisions. ResearchGate (2015).
4. Raafifalah, I.B.: Pengaruh herd behavior dan heuristic (representativeness, anchoring, overconfidence, dan availability bias) terhadap investment decision investor mahasiswa di Kota Malang. Parsimonia: Jurnal Ekonomi dan Bisnis 8, 20–34 (2021).
5. Adielyani, D., Mawardi, W.: The influence of overconfidence, herding behavior, and risk tolerance on stock investment decisions: The empirical study of millennial investors in Semarang City. Jurnal Maksipreneur: Manajemen, Koperasi, dan Entrepreneurship 10, 89–101 (2020).
6. Septian, W., Hendrawaty, E.: Impact of behavioral factors among Indonesian individual investor towards investment decisions during COVID-19 pandemic. IOSR Journal of Economics and Finance 13, 43–52 (2022).
7. Bogunjoko, A.: Impact of behavioral finance on investment decisions: Investigation into how psychological factors affect investment decisions among millennial investors in Nigeria. National College of Ireland (2021).
8. Karmila, N., Pahlevi, C., Kadir, N.: The effect of financial behavior and literacy on investment decisions in the millennial generation of Makassar City. International Journal of Innovative Science and Research Technology 7 (2022).
9. Kahneman, D., Tversky, A.: Prospect theory: An analysis of decision under risk. Econometrica 47, 263–291 (1979).
10. Loewenstein, G., Weber, E.U., Hsee, C.K., Welch, N.: Risk as feelings. Psychological Bulletin 127, 267–286 (2001).
11. Weber, E.U., Blais, A.-R., Betz, N.E.: A domain-specific risk-attitude scale: Measuring risk perceptions and risk behaviors. Journal of Behavioral Decision Making 15, 263–290 (2002).
12. Waweru, N.M., Munyoki, E., Uliana, E.: The effects of behavioral factors in investment decision-making: A survey of institutional investors operating at the Nairobi Stock Exchange. International Journal of Business and Emerging Markets 1, 24–41 (2008).
13. Bekaert, G., Harvey, C.R., Lundblad, C.: Liquidity and expected returns: Lessons from emerging markets. Review of Financial Studies 20, 1783–1831 (2007).
14. Nguyen, N., Claus, E.: Good news, bad news, consumer sentiment and consumption behavior. Journal of Economic Psychology 39, 426–438 (2013).
15. Kumar, P., Islam, M., Pillai, R., Tabash, M.: Risk perception-perceived investor performance nexus: Evaluating the mediating effects of heuristics and prospects with gender as a moderator. SAGE Open 14 (2024).
16. Yadav, K., Chaudhary, R.: Impact of heuristic-driven biases on investment decision-making of individual investors: The mediating role of risk perception. Orissa Journal of Commerce, 127–143 (2022). https://doi.org/10.54063/ojc.2022.v43i01.10

17. Ishfaq, M., Kashif Khurshid, M.: Risk perception is a mediator between heuristic bias and risky investment decision: Empirical evidence from Pakistan's equity markets. Research Journal of Finance and Accounting 7 (2016).
18. Mangoting, Y.: Perceived risk, perceived functional benefit, dan kepuasan sebagai penentu intensi berkelanjutan wajib pajak menggunakan e-filing. Jurnal ASET (Akuntansi Riset) 12, 32–47 (2020).
19. Kawira, K.D., Maluku, E., Odhiambo, R.: Effect of digital marketing on the performance of MSMEs in Kenya. Journal of Marketing and Communication 2, 1–24 (2019).

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