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Psychological Bias Factors in Stock Investment Decision Making AmongCollege Students

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ABSTRACT: Investing in Indonesia presents a promising avenue for enhancing its economic growth. However, individuals' investment decisions are often influenced by various factors that can lead to irrational choices and adversely affect their investments. This study aims to investigate the impact of three key factors - herding, risk tolerance, and overconfidence - on the decision-making process of stock investors.

This research adopts a quantitative approach, utilizing primary data collected through the distribution of questionnaires. The research sample consists of 80 respondents, comprising both FISIP UPN "Veteran" East Java students and customers of Galeri Investasi FISIP who actively invest in stocks. The sample selection employed purposive sampling techniques to ensure a targeted population representation. SmartPLS 4.0 software was employed to analyze the collected data, providing robust statistical analysis capabilities. The findings of this study reveal significant insights. Specifically, herding, risk tolerance, and overconfidence substantially influence the stock investment decisions made by FISIP UPN "Veteran" East Java students.

By examining the interplay between these factors, the research sheds light on the underlying dynamics of investment decision-making processes among FISIP UPN "Veteran" East Java students. These findings contribute to a deeper understanding of the factors that shape investment behavior, offering valuable insights for investors, policymakers, and financial institutions aiming to enhance the efficiency and effectiveness of investment strategies in Indonesia.

KEYWORDS: Herding; Risk Tolerance; Overconfidence; Stock Investment Decisions

I. INTRODUCTION

The COVID-19 pandemic has presented Indonesia with significant challenges, leading the country to prioritize its economic recovery efforts. As part of these efforts, the Indonesian government has implemented measures to encourage investment in the country's stock market. To support this initiative, the Indonesia Stock Exchange has collaborated with universities and securities companies to establish the Investment Gallery. This gallery aims to educate students on making informed investment decisions by providing knowledge of relevant laws, regulations, and investment strategies. One of the academic institutions involved in this collaboration is Universitas Pembangunan Nasional "Veteran" East Java.

In recent years, there has been a notable increase in the number of local individual investors participating in Indonesia's stock and bond markets. The total number of investors has reached 4 million, representing a 15.96% growth compared to the previous year. Among these investors, approximately 3.4 million are involved in bond investments. While the number of stock investors continues to grow, the growth rate has declined. From 2020 to 2021, the growth rate stood at 103.60%, dropping to 19.89% from 2021 to 2022. Notably, a significant portion of these investors consists of millennials and Generation Z.

Yuniningsih et al. (2019) ascertained that investment choices are shaped by a fusion of internal and external factors alongside investors' individual psychological biases.

A survey of 43 students at FISIP UPN "Veteran" East Java found that 93% of the respondents had invested in stocks, while 7% had invested in mutual funds. Most respondents, 79.1%, said they tend to follow others' opinions, 65.1% are uncomfortable taking big risks, and 79.1% are confident in their decisions. These results indicate that most respondents tend to act like others, are risk-averse, and are overconfident

II. LITERATURE REVIEW

Prospect Theory

Prospect theory underlies decision-making even though the results may not be predictable (Kahneman & Tversky, 1979). This theory states that individuals do not always act rationally and are based on financial knowledge in decision-making but still consider psychological factors that impact irrational investment decision-making (Nadhifah & Anwar, 2021). The prospect theory explains that individuals do not always act rationally when uncertain because sometimes individuals are influenced by psychological factors that impact unexpected actions in rational decision-making (Pradikasari & Isbanah, 2018).

Stock Investment Decisions

Investment decisions are decisions made by someone in allocating their funds for an asset with the expectancy of making a profit inthe future (Aristiwati & Hidayatullah, 2021). According to Afriani & Halmawati (2019), investment decision-making is challenging for investors. Stock investment decisions are decisions made by an investor to distribute their funds in the form of stocks with the hope of gaining profits for the future.

Herding

According to Banerjee (1992), herding refers to individuals imitating the actions of others. In the context of investment, herding represents the tendency of investors to follow market trends or expert advice (Rahayu et al., 2019). Vieira and Pereira (2015) argue that herding can lead to two approaches in investment decision-making. On the one hand, investors may act irrationally by imitating the decisions of other investors. On the other hand, investors may act rationally by intentionally imitating the decisions of other investors. The impact of herding on investment decisions has been examined by previous researchers such as Ramdani (2018), Prisiliya and Moeljadi (2022), Hadrian and Adiputra (2020), Qasim et al. (2019), and Adielyani and Mawardi (2020), who have found evidence of a positive influence.

Risk Tolerance

As defined by Grable (2000), risk tolerance refers to the maximum level of uncertainty an individual can handle when making financial decisions. Budiarto and Susanti (2017) describe risk tolerance as an individual's ability to accept a certain level of risk when engaging in investments. Each investor has a unique tolerance level for investment risks. Risk tolerance plays a crucial role in enabling investors to manage and align their investment goals with the risks they are willing to undertake. Several previousstudies have explored the impact of risk tolerance on investment decisions. Wardani and Lutfi (2019) suggest that investors withhigh-risk tolerance tend to allocate a larger portion of their funds to the capital market. Other research conducted by Pradikasari and Isbanah (2018), Budiarto and Susanti (2017), Hikmah et al. (2020), and Pujiyanto and Mahastanti (2020) indicate a positive relationship between risk tolerance and investment decisions.

Overconfidence

Fischhoff, Slovic, & Lichtenstein (1977) stated that overconfidence is a cognitive bias in financial behavior, in which a person tends to excessively assess their abilities, knowledge, and accuracy of the information and ignores public information. Some overconfident investors believe that their investment decisions will yield greater returns than others. However, overconfident investors in the stock market experience losses due to making wrong decisions. Previous researchers have widely researched the influence of overconfidence on investment decisions, as Rachman (2018) and Tanusdjaja (2018) state that overconfidence positively affects investment decisions.

Conceptual Framework

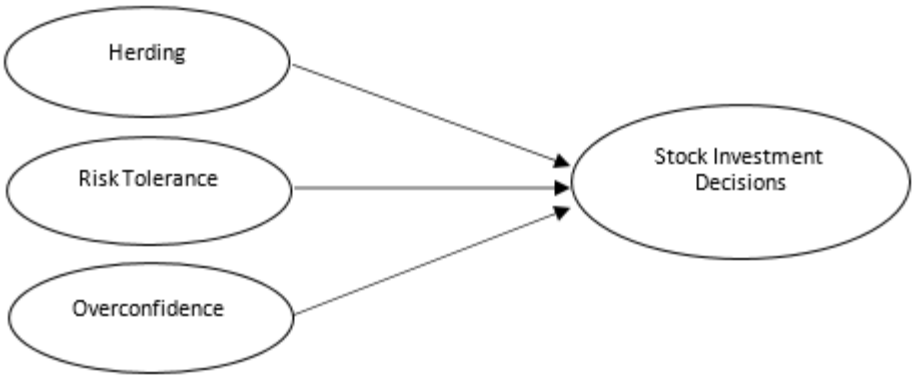

Figure 1. Conceptual Framework

Hypotheses

Hypothesis 1 (H1): There is a positive relationship between herding and stock investment decisions. Hypothesis 2 (H2): There is a

positive association between risk tolerance and stock investment decisions. Hypothesis 3 (H3): There is a positive impact of overconfidence on stock investment decisions.

III. RESEARCH METHODOLOGY

This quantitative study uses primary data from broadcasting questionnaires in the form of a Google form link to respondents. This study's population is FISIP UPN "Veteran" East Java students. The sampling strategy used is purposive sampling, and 80 samples were obtained with criteria such as being an active student of FISIP UPN "Veteran" East Java, a customer of GaleriInvestasi FISIP, and currently investing in stocks. The variable measurement uses a Likert scale with a score of 1 (strongly disagree) to 5 (strongly agree). The Data analysis used the Partial Least Square method assisted by the SmartPLS 4.0 program.

According to Adiputra (2021) and Utami & Sitanggang (2021), the decision to finance in stocks can be measured by six indicators, such as understanding how to minimize investment risks, being interested in high-return stock investments, analyzingpotential risks, future planning, seeking information related to returns, and believing in one's ability to manage finances. Herdingcan be measured using indicators such as investment decisions influenced by the decisions of other investors, selecting stock types influenced by other investors' decisions, reacting quickly to changes in the stock market, and seeking others' opinions before investing (Areiqat et al., 2019) and (Pranyoto et al., 2020). Risk tolerance can be measured using indicators such as choosing high-risk, high-return investments, investing without consideration, believing that risk does not always lead to losses, and valuing profits more than security (Adiputra, 2021). Meanwhile, the overconfidence variable can be measured using indicators such as confidence in one's abilities, believing in the chosen investment, believing in getting significant profits, and having faith in one's knowledge (Jannah & Adi, 2017) and (Budiarto & Susanti, 2017).

IV. RESEARCH RESULTS AND DISCUSSION

Respondent Demographic Description

The demographic data of the study participants were analyzed based on gender, major, class, monthly income, and stock investment experience. It was observed that the majority of respondents were female (48 or 60%), enrolled in public administration major (48 or 52.5%), belonged to the class of 2019 (54 or 67.5%), had a monthly income ranging from >IDR 1,000,000.00 to IDR 2,000,000.00 (29 or 36.3%). It had a stock investment experience of more than one year but less than two years (39 or 48.8%).

Outer Model Test

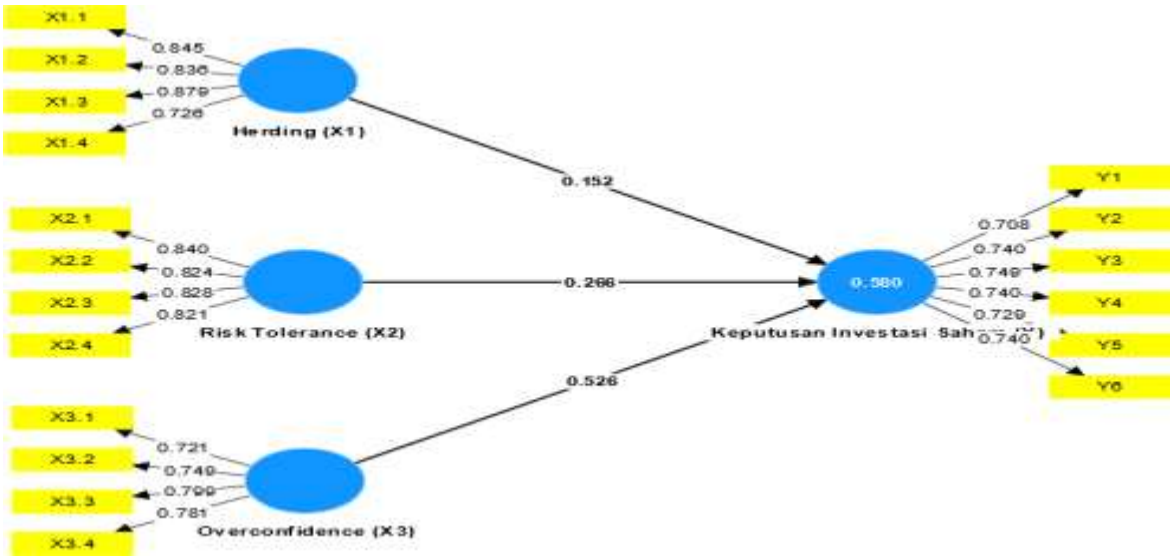

Figure 2. Outer Model PLS

The figure above shows the magnitude of loading factor values for each indicator. The loading factor values for all indicators tested in this study obtained values above 0.7, which means that all indicators have good validity and can be used as measuring instruments for the tested variables.

Table 1. Average Variance Extracted (AVE)

	The average variance extracted (AVE)
Herding (X1)	0.678
Stock Investment Decisions (Y)	0.539
Overconfidence (X3)	0.582
Risk Tolerance (X2)	0.686

From the provided table, it is evident that the Average Variance Extracted (AVE) values for the variables are as follows:0.678 for Herding (X1), 0.686 for Risk Tolerance (X2), 0.582 for Overconfidence (X3), and 0.539 for Stock Investment Decisions (Y). All variables in this study demonstrate good validity as their AVE values exceed the threshold of 0.5.

Table 2. Composite Reliability

	Composite reliability
Herding (X1)	0.893
Stock Investment Decisions (Y)	0.875
Overconfidence (X3)	0.848
Risk Tolerance (X2)	0.897

According to the provided table, the Composite Reliability test results for the variables are as follows: 0.893 for Herding(X1), 0.897 for Risk Tolerance (X2), 0.848 for Overconfidence (X3), and 0.875 for Stock Investment Decisions (Y). These findings indicate that all tested variables exhibit Composite Reliability values exceeding 0.7. Therefore, it can be inferred that all assessedvariables have demonstrated good reliability.

Inner Model Test

In the inner model test, attention is paid to the magnitude of the R-Square value. The R-Square value is useful for seeing theability of the independent variable in this study to explain its dependent variable.

Table 3. R-Square

	R-square
Herding (X1)	
Stock Investment Decisions (Y)	0.580
Overconfidence (X3)	
Risk Tolerance (X2)	

According to the provided table, the R-Square value for the stock investment decision variable is 0.580. This indicates that the independent variables - herding, risk tolerance, and overconfidence - collectively influence 58% of the stock investment decision variable. The remaining 42% of the variability in the stock investment decision is attributed to other independent variables not considered in this study.

Hypotheses Test

Table 4. Mean, STDEV, and P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STVDEV)	T Statistic (|O/STERR|)	P Values
X1 -> Y	0.152	0.147	0.076	1.986	0.047
X3 -> Y	0.526	0.530	0.064	8.250	0.000
X2 -> Y	0.266	0.268	0.075	3.546	0.000

Effect of Herding on Stock Investment Decisions

Based on the results of the hypothesis testing, it can be inferred that herding positively impacts the stock investment decisions of FISIP UPN "Veteran" East Java students who are customers of Galeri Investasi FISIP. This conclusion is drawn considering that the respondents are predominantly students who are relatively new to investing, with an investment experience in stocks of 1-2years, which is comparatively less than more experienced investors. As a result, they are susceptible to being influenced by herding behavior when making stock investment decisions. This finding aligns with a previous study by Afriani and Halmawati (2019), which also identified a positive relationship between herding and stock investment decisions.

Effect of Risk Tolerance on Stock Investment Decisions

Based on the results of the hypothesis testing, it can be inferred that risk tolerance positively impacts the stock investment decisions of FISIP UPN "Veteran" East Java students who are customers of Galeri Investasi FISIP. This finding can be attributed to most respondents being students with a monthly income not exceeding Rp. 2,000,000. It suggests that the respondents are motivated to generate additional income through the potential profits from their stock investments. This finding aligns with the principles of prospect theory, which suggests that individuals are more inclined to take risks when facing economic difficulties. Conversely, individuals are less likely to take investment risks when their financial situation is stable. A similar study by Pradikasari and Isbanah (2018) also revealed comparable results, demonstrating a positive relationship between risk tolerance and investment decisions among students in Surabaya.

Effect of Overconfidence on Stock Investment Decisions

Based on the results of the hypothesis testing, it can be inferred that overconfidence positively impacts the stock investment decisions of FISIP UPN "Veteran" East Java students who are customers of Galeri Investasi FISIP. This finding is attributed to the fact that the respondents are students and customers of the investment gallery, indicating that higher levels of education contribute to a perceived increase in investment knowledge. Moreover, Galeri Investasi FISIP provides resources for students to access information related to the capital market, further boosting their confidence in their abilities and knowledge.
Consequently, they become susceptible to the influence of the overconfidence bias. This finding is consistent with a study conducted by Rachman (2018), which also concludes that the overconfidence variable positively affects investment decisions.

V. CONCLUSION

This study was executed to test the effect of herding, risk tolerance, and overconfidence on the stock investment decisions of FISIP UPN "Veteran" East Java students. Based on the analysis outcomes, it can be deduced that the variables herding, risk tolerance, and overconfidence positively affect the stock investment decisions of FISIP UPN "Veteran" East Java students. Through these results, respondents still tend to act irrationally in making stock investment decisions and are influenced by their psychological conditions. This study has limitations in the number of samples used, which still needs to be bigger. Therefore, it is recommended that future researchers increase the number of samples to obtain more accurate results. In addition, future researchers can also examine other independent variables to test their influence on stock investment decisions, such as regret aversion, loss aversion, risk perception, the illusion of control, and many more.

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