

WHAT DRIVES INVESTORS TO MAKE INVESTMENT DECISIONS? ANALYSIS OF HEURISTIC BIAS AND LONG-TERM ORIENTATION

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ABSTRACT

This study aims to investigate the effect of heuristic biases such as overconfidence bias, availability bias, and representativeness bias on the investors' investment decisions on the Indonesian stock exchange (IDX), as well as the moderating role of long-term orientation. By using a structured questionnaire, a total of 404 responses have been collected from individual investors who have made transactions in the Indonesian capital market, especially stocks. The relationships between variables were tested by applying the Structural Equation Modeling (SEM) method by using the SmartPLS 3.3.7 software. The results show that overconfidence bias, availability bias, and representativeness bias have a significant and positive effect on investors' investment decisions. Meanwhile, the moderating effect of long-term orientation is significant only on the effect of overconfidence bias on investment decisions. This shows that the long-term orientation of investors strengthens the effect of overconfidence bias on investment decisions. Information availability bias and representativeness bias in this study have no significant moderating effect of long-term orientation. This research is expected to be able to provide new insights about the role of heuristic bias in individual investors' investment decisions in the stock market.

Keywords: Heuristic Bias; Investment Decision; Information Availability Bias; Long-Term Orientation; Overconfidence Bias; Representativeness Bias

INTRODUCTION

Investment is considered as a measure of the economic strength and development of a country (Rasheed et al., 2018). Data from the Indonesian Central Securities Depository (KSEI) shows that from the end of 2019 to October 2021, the number of investors increased from 2.48 million to 6.43 million and experienced a percentage increase of around 259% from the end of 2019 (Kemenkeu, 2021). The significant increase in investors makes the public need an adequate understanding to manage existing financial and non-financial data information (Pratama et al., 2020). In today's reality, especially novice investors prefer to use their psychological and emotional factors in making decisions without considering many things for the future (Sabilla & Pertiwi, 2021). Investor behavior usually deviates from logic and reason, resulting in investors exhibiting various behavioral biases that affect their investment decisions (Richie & Josephson, 2017).

Investment decision making is a very complex process that involves identifying various investment alternatives and selecting the best of them (Jain et al., 2020). In making investment decisions, everyone is faced with many factors that hinder a person in making investment decisions (Puskaa et al., 2019). If a person makes the wrong decision about the implementation of a particular investment, it can lead to the risk of loss that will be faced (Buratti & Allwood, 2019). Investors in making investment decisions are always faced with conditions of uncertainty and various risks (Yuwono & Elmadiani, 2021). In making financial decisions, investors are rational but sometimes emotions and souls influence their decisions, causing these decisions to be made in an irrational way (Khan, 2017). This is in line with prospect theory which explains individual cognitive and show that decision-making errors caused by the use of some shortcuts by investors, which are better known as heuristics (McCannon et al., 2016).

The overconfidence bias is a cognitive heuristic bias, which can be defined as an unwarranted belief in one's intuitive reasoning, judgment, and cognitive abilities. (Ahmad & Shah, 2020). Overconfidence bias can be said as the tendency of individuals to overestimate their own abilities (Bakar & Yi, 2016). In general, the literature shows that overconfidence bias

significantly affects one's behavior (Mccannon et al., 2016). In his research, Merkle (2017), mentions that someone who is overconfident tends to take higher risks. Therefore, an overconfidence bias can impair the quality of investment decisions and performance.

In addition to being overconfident, bias in the availability of information also has an influence on investment decision making (Khan et al., 2020). Availability heuristic bias is a type of unprepared decision making by only considering easily available knowledge and information in evaluating investment opportunities and ignoring other alternative methods. (Ozen, 2016). As a result, individuals tend to weigh their judgments against more recent information (Dale, 2019). Information availability bias is used when they assess how likely it is to occur by focusing on the ease with which they think it is (Vis, 2019). In the stock market, this behavior can be observed when investors prefer shares of local companies over shares of international companies because they are familiar with local stocks and the information is readily available and can be obtained easily.

The representativeness bias is one part of the other heuristic bias. It is a shortcut rule that investors apply in a situation to reduce the decision-making process and draw conclusions quickly (Khan et al., 2020). Hussain et al. (2017) said that this bias tends to influence investors' decisions about buying shares. Representativeness bias puts too much trust in something based on the assumptions of certain social groups (Ahmad et al., 2020). It can be interpreted that representativeness bias is a rule of thumb that makes individuals make a decision that is similar to the population (Abdin et al., 2017).

Based on research conducted by Khan et al. (2020), heuristic bias can be controlled by paying attention to long-term orientation because long-term investment behavior is a risk management strategy. Investors consider all relevant financial performance and evaluate the risks associated with financial security or the company over a long period of time to make the risk reduced due to a long-term orientation in decision making. Long-term orientation explores how individuals with different cultural backgrounds view time management, present, past and future (Khan et al., 2020). Cultures with a long-term orientation value the future more than the present or the past. Therefore time orientation is an important element in decision making (Schepers et al., 2020). Venaik & Brewer (2013) mentions that future-oriented individuals place more emphasis on planning for the future and hoping for a better future than the present or the past. Therefore, it is suggested that investors with a long-term orientation should consider all relevant information in their investment decisions. In addition, investors also conduct a thorough analysis of an investment as well as a detailed and thorough financial condition (Sternad & Kennelly, 2017). Investors can ultimately avoid heuristic biases such as overconfidence bias, representativeness bias and information availability bias in their investment decisions.

Previous research on the effect of heuristic bias on investment decisions is still inconsistent. Ahmad, Zulfiqar, Shah, & Abbass, (2020); Kasoga, (2021); Khan, Afeef, Jan, & Ihsan, (2020); Rasheed, Rafique, Zahid, & Akhtar, (2018); Shah, Ahmad, & Mahmood, (2018); Chhapra, Kashif, Rehan, & Bai, (2018); Bakar & Yi, (2016); Parveen, Wajid, Abdul, & Jamil, (2020); Hayat & Anwar, (2016); Khan et al., (2020); Ullah, Ullah, & Rehman, (2017) research on heuristic biases about investment decisions still produces mixed research results. This research is a development of research Khan et al. (2020), who mentioned that in the future researchers should explore the moderating role of long-term orientation in other behavioral biases, such as overconfidence bias. So this study aims to analyze the effect of heuristic biases such as overconfidence bias, information availability bias and representativeness bias with long-term orientation as moderating variables. Heuristic bias is one of the behavioral finance theories that is rarely studied and has a significant influence on investment decision making. The results of this research will contribute to the investment decision making of investors that in making investments one must be able to manage psychology and consider the many existing analyzes in order to achieve maximum investment goals.

LITERATURE REVIEW

Investment Decision

According to Russo (2014), decision making is an individual, group or organization making inferences about an action in the future. Some people make a decision rationally or irrationally because the information someone gets is not always relevant (Lubis, 2019). In

making decisions, it is necessary to consider relevant aspects of various existing disciplines (Harrison, 2011) and an individual's investment decisions are not always made rationally (Rahman & Gan, 2020). In traditional finance theory, it is also stated that investors are considered rational and have sufficient knowledge to make rational investment decisions when some investors may have limited knowledge (Madaan & Singh, 2019). However, most investors generally have an investment objective to maximize profits while reducing investment risk by evaluating the intrinsic value of the price of a stock (Rahman & Gan, 2020). In determining investment decisions, individuals will be driven by investment literacy, this can be seen from how they manage their investments, which will affect satisfaction in investment management (Lubis, 2019). Thus, in general, investment decision making is strongly influenced by a person's psychology.

Heuristic Bias

Heuristics are rules of thumb, which decision makers in complex and uncertain situations use to make decisions easily (Shah et al., 2018). In behavioral finance theory, it is stated that behavioral biases such as the psychological, emotional and cognitive roles of a person can influence investment decision making (Itzkowitz & Itzkowitz, 2017; Jain et al., 2020). Heuristic bias is more about how a person uses mental shortcut strategies to find solutions in complex situations (Khan et al., 2020). More recent literature suggests that emotional and psychological factors such as overconfidence bias, information availability bias, and representativeness bias play an important role in investment decisions (Khan, Afeef, Jan, & Ihsan, 2020).

Overconfidence Bias

Mahajan (1992) defines overconfidence as too high a person's assessment of his abilities. Another opinion is that overconfidence can be said as a condition where an individual has a positive rating that is too high about himself and has a feeling of being able to control events in the future (Bazerman et al., 2002). The overconfidence bias is the tendency of individuals to over-explain about their own talents and abilities (Bakar & Yi, 2016). When investors use heuristics in making decisions, their knowledge and reasoning abilities will be disrupted, causing investment decisions to be less than optimal (Ahmad & Shah, 2020). Previous research on the overconfidence behavior bias has had inconsistent results. In the research conducted Hayat & Anwar (2016 and Kasoga (2021) revealed that overconfidence bias has a positive influence on investment decisions. In contrast to the research conducted by Ahmad & Shah (2020); Rahman & Gan (2020); Shah et al. (2018) stated that overconfidence bias is negatively related to investment decisions.

According to behavioral finance theory, irrational investment decision making is caused by psychological factors of investors themselves (Hirshleifer, 2015). In behavioral finance theory, psychological bias is used to study and evaluate investors' investment decisions (Rahman & Gan, 2020). According to behavioral finance theory, every individual has a psychological bias that prevents them from making rational decisions that make investors perform poorly (Ahmad & Shah, 2020). Among irrational behavior, overconfidence bias is a heuristic driven bias that makes a decision irrational (Ahmad et al., 2020).

Overconfidence bias can cause investors to be more prone to high losses because they trade a lot without having adequate financial knowledge (Kasoga, 2021). When individual investors use heuristics, their technical knowledge and reasoning abilities are impaired, leading to errors in judgment (Ahmad & Shah, 2020). Many researchers in behavioral finance argue that this heuristic can influence financial decision making (Klein, 1998). Investors make irrational decisions, which in turn affect their investment performance. Therefore, after reviewing the relevant literature, the researcher concludes that there is a negative effect of overconfidence bias on investment decisions so that the hypothesis is formulated as follows.

H1. Overconfidence bias has a negative effect on investment decisions

Information Availability Bias

Information availability bias is a cognitive heuristic that refers to an individual's tendency to rely on easily available information and other relevant examples when making decisions (Tversky & Kahneman, 1973). Investors make available simple information very important rather

than considering multiple factors in the overall information (Ozen, 2016). Therefore, investors only consider up-to-date and ready-to-use information in making investment decisions (Khan et al., 2020). Previous research from Chen et al. (2017), Khan et al. (2020), and Shah et al. (2018) found a positive and significant influence on the bias of the availability of information on investment decisions. In contrast to the research conducted by Ahmad et al. (2020) which states that information availability bias has a negative effect on investment decisions. In previous studies, there are still inconsistencies in the results of the research due to differences in the samples used. This difference is normal because each individual has their own rationality.

According to behavioral finance theory, investors behave irrationally in the stock market under different circumstances. Competition among investors to outperform the market forces them to respond hastily to available information (Bowers et al., 2014). Investors only rely on heuristic biases such as information availability bias, which makes investors make irrational decisions and affect investment decisions (Khan et al., 2020). Information availability bias occurs when individuals act on the most recent information that is easily obtained (Bakar & Yi, 2016). Likewise, negative company information in the financial market causes investors to quickly avoid risk in investing (Khan, 2017). Investors in making investment decisions require speed of information and speed of analysis to determine investment decisions because if it takes too long to make decisions, investors will be left behind and trapped by market volatility. Information availability bias contributes to understanding investment phenomena and rapid reactions to a series of positive or negative news in the market (Kasoga, 2021). Based on the explanation above, it can be concluded that the bias in the availability of important information in investment decisions, therefore the hypothesis is formulated as follows.

H2: Information availability bias has a positive effect on investment decisions

Representativeness Bias

Representativeness bias is a mental shortcut and is defined as the tendency to attribute one characteristic to inferring another irrationally (Tversky & Kahneman, 1973). Representativeness bias is also defined as a belief in a case that is used to form a quick but irrational sentiment (Shefrin, 2000). Investors will tend to conclude excessive information based on small information or a characteristic, which will adversely affect the quality of investment decision making (Ahmad et al., 2020). Previous research on the representativeness heuristic bias has shown inconsistent results. Shah et al. (2018) and Ahmad et al. (2020) revealed that the representativeness heuristic bias has a negative influence on investment decision making. While other studies have found other results that the representativeness bias has a significant positive effect on investment decisions (Alwathainani, 2012; Khan et al., 2020; Kasoga, 2021). The inconsistency of previous research is caused by differences in the models and samples used in the study, namely investors and entrepreneurs.

Referring to behavioral financial theory, it is explained that investors use a heuristic bias that involves emotional and psychological in making investment decisions (Rahman & Gan, 2020). Behavioral financial theory states that in making investment decisions, investors use their psychological and financial knowledge (Chhapra et al., 2018). Research on the representativeness heuristic bias has found that investors overuse available information in their investment decisions (Galavotti et al., 2021). Representativeness bias is usually referred to and associated as a rule of thumb in making investment decisions with respect to past performance (Kasoga, 2021). Investors avoid poor performance in companies and prefer companies that have performed both in the past and present to invest. From the explanation above, it is concluded that the representativeness bias can increase the return of investors in investing. Therefore, the hypothesis is formulated as follows.

H3: Representativeness bias has a positive effect on investment decisions

Long Term Orientation

Long-term orientation is a behavior that is oriented towards future rewards, especially persistence and thrift. Individuals with a long-term orientation describe a strong persistence in working to achieve goals (Hofstede, 2001). Long-term oriented investors consider all financial performance and analyze all risks that will occur in the future (Khan et al., 2020). Implementation of a long-term orientation requires an analytical process and a longer time to get higher returns and increase investment value (Flammer & Bansal, 2017). Research related

to long-term orientation as a moderating variable between heuristic biases (overconfidence bias, information availability bias, representativeness bias) is still very rarely done. Research conducted by Khan et al., (2020) shows that the long-term orientation of investors weakens the effect of the representativeness bias on investment decisions. However, for information availability bias, long-term orientation has no significant moderating effect.

Long-term orientation values a process more than results or relatively instant gratification (Aurigemma & Mattson, 2019). This is contrary to the application of existing heuristic biases, such as overconfidence biases are more prone to high losses because they have high expectations without having adequate knowledge (Parveen et al., 2020). Representativeness bias can result in overpriced stock purchases due to the tendency to associate new news with known events (Waweru et al., 2008). Based on the theory of explanatory prospects from several previous studies above, it is concluded that long-term orientation moderates the relationship between heuristics (overconfidence bias, information availability bias, and representativeness bias) and investment decisions.

H4a: Investors' long-term orientation moderates the relationship between overconfidence bias and investment decisions.

H4b: Investors' long-term orientation moderates the relationship between information availability bias and investment decisions.

H4c: Investors' long-term orientation moderates the relationship between representativeness bias and investment decisions

METHODS

Research Design and Sample

In this study, researchers used a quantitative approach with a descriptive type of research. The population of this study is individual investors who invest in the capital market. The sample of this study is a screening of the existing population. The sampling technique in this research is purposive sampling, with certain criteria. The criteria that will be included in this research sample are: (1) Respondents have invested in one of the investment products in the capital market, both the Indonesian capital market and the foreign capital market. (2) Respondents are individuals who already understand how to invest and transact in the capital market. In this study, researchers used primary data collected directly by researchers from the main data source. Primary data in this study was obtained by conducting data collection techniques in the form of distributing questionnaires using measurements in the form of a six-point Likert scale. In collecting data, the use of google forms will be used in distributing questionnaires online.

Variable Measurements

The dependent variable in this study is investment decision, while overconfidence bias, information availability bias, and representativeness bias are independent variables. This study also uses long-term orientation as a moderating variable. In measuring investment decisions, we use a tool to measure the irrational behavior of investors with five statement items that are adopted from Rasheed et al. (2018), while in measuring the overconfidence bias, we use a measuring tool for excessive behavior with six statement items adopted from Ahmad & Shah, (2020). The researchers also use five statement items adopted from the research Rasheed et al. (2018) to measure information availability bias. In measuring the representativeness bias, we use six items adopted from Rasheed et al. (2018). Finally, the long-term orientation variable uses investor planning as a measuring tool with six items adopted from the statement Yoo, Donthu, & Lenartowicz (2011).

Data Analysis

To perform the analysis, the Structural Equation Modeling (SEM) method was applied using the SmartPLS 3 software. Consistent with the methodology suggested by Khan et al. (2020), where the product indicator approach for moderation using Partial Least Squares Structural Equation Modeling (PLS-SEM) is applied in processing data. This method is related to this research because Structural Equation Modeling (SEM) is a method of multivariate data analysis that is popular among researchers in business fields, such as accounting and information systems (Achjari, 2004). Data analysis using PLS-SEM was carried out by evaluating two types of models, namely the evaluation of the measurement model (outer model) and evaluation of the structural model (inner model). Evaluation of the measurement model is used to test the validity and reliability of each indicator item for each variable, while the structural model is used to determine the significance of the variables used in hypothesis testing.

Evaluation of models with accuracy alone is not appropriate when applied to the minority class classification model or commonly referred to as unbalanced data (balance data). The minority class will have little impact on the accuracy of the model. If the classification is included in the imbalanced data, the evaluation can be assessed using the metrics of sensitivity, specificity, precision, and F-Measure (Siringoringo, 2018).

RESULTS

Respondents

In this study, the object under study is an investor in the Indonesian capital market. Research respondents are investors who have made transactions in the capital market, both short-term and long-term investments. In this study, the total population, namely all investors in the Indonesian capital market until January 2022, reached 7.86 million. From the Slovin method, the minimum number of samples in this study is 400 samples or respondents from the existing population. This study used 431 respondents from the population, where 27 investors answered that they had never made transactions in the capital market so that there were only 404 respondents whose answers could be analyzed. Characteristic data in this study is used to reveal the circumstances and conditions of the respondents, such as gender, age, how long the investment experience is, and monthly income or income.

Validity and Reability Testing

Testing the measurement model is done by testing the validity, reliability and model fit. This test is carried out to determine whether the construct has met the requirements to be continued as research data or not. In this study, the validity test was carried out by evaluating convergent validity and discriminant validity, while the reliability test was carried out by evaluating Cronbach's alpha and composite reliability. The initial stage of the measurement scale is to see the loading factor value of each research instrument item. The loading factor value of 0.5-0.6 is still considered quite valid, but it will be much better if it is above 0.7 (Chin, 1998). The following are the results of the outer model test showing the loading factor value using the SmartPLS v 3.3.7 analysis tool.

Based on the loading factor value in table 2, it has been considered to meet convergent validity because all values the loading factor is more than 0.5 and the AVE (Average Variance Extracted) 0.5, so it can be concluded that all constructs are valid. Table 2 also shows that all constructs in this study showed composite reliability test results above 0.7. We can conclude that the construct above is reliable because it meets the reliability requirements for the composite reliability test, which is 0.7. Just like the composite reliability test, Cronbach's alpha is also used as a construct reliability test tool in research. According to Ghazali & Latan (2015), a construct is considered reliable if Cronbach's alpha >0.7 for Confirmatory Research and >0.6 is still acceptable for Exploratory Research. From Table 2 the results of the Cronbach's alpha test, it can be seen that all constructs in this study showed test results above 0.7. The construct is reliable because it meets the reliability requirements for the Cronbach's alpha test, which is 0.7. From the table above, it can be concluded that the construct used is valid and reliable.

Hypothesis Testing

To measure the effect of overconfidence bias, information availability bias, and representativeness bias on investment decisions, researchers conducted PLS-SEM using SmartPLS. R-Square value of 0.418 which indicates that 41.8% of investment decisions are caused by overconfidence bias, information availability bias and representativeness bias. This explains that investors in their investment decisions in the stock market are very dependent on heuristic bias. Bakar & Yi (2016) also found a high value of R square (0.834) for psychological factors on investment decisions in Malaysia.

Based on the results of hypothesis testing using bootstrapping in table 3, it is explained that overconfidence bias, information availability bias, and representativeness bias has a significance of less than 0.05 which indicates that these variables have a significant effect on investment decisions. Meanwhile, the variables that are influenced by long-term orientation show significant and insignificant results. too confident bias variable that is influenced by long-term orientation has a significant value, namely the probability value below 0.05. However, for the information availability bias and representativeness bias moderated by long-term orientation, it does not have a significant effect.

DISCUSSION

The first hypothesis about the effect of overconfidence bias on investment decisions cannot be accepted or rejected. According to prospect theory in research Thomas (2013) mentions that someone will think and make decisions in various options that are considered profitable by considering risks. According to the heuristic theory, overconfident investors over-trade the market in order to earn higher profits. As a result, their irrational and overconfident behavior leads them to believe that they can earn higher profits and invest more and more in the stock market (Fahim et al., 2019). The results of this study are in line with or in accordance with the research Hayat & Anwar (2016) and Kasoga (2021) which states that the overconfidence bias has a significant positive effect on investment decisions. Hayat & Anwar (2016) mention that when investors have adequate financial knowledge, they show a more confident bias compared to other investors who do not have financial knowledge. Therefore, investors who are too confident at least already have the knowledge that is used to make investment decisions so that they can generate profits and minimize the risk of loss.

The other results show that availability information bias have a positive influence on investment decisions, so that the second hypothesis is accepted. In the application of prospect theory, we can find the relationship between heuristic bias and investment decisions (Ahmad et al., 2020). Prospect theory also assesses profits and losses to determine an investment decision from the analysis carried out (Ahmad & Shah, 2020). In the information availability heuristic bias, individuals evaluate the probability of an event based on available data, the ease with which the relevant case comes to mind (Brahmana et al., 2012). The results of this study are in line with previous research from Chen et al. (2017) and Khan et al. (2020) which state that information availability bias has a significant positive effect on investment decisions. Information availability bias occurs when individuals act on the most recent information that is easily obtained (Bakar & Yi, 2016). Likewise with the company's negative information such as a decrease in income or profit and greater debt make investors can avoid the risk of losses (Khan, 2017).

The representativeness bias also has a positive influence on investment decisions so that the third hypothesis is accepted. Behavioral financial theory states that in making investment decisions, investors use their psychological and financial knowledge (Chhapra et al., 2018). Representativeness bias is referred to as a rule of thumb in making investment decisions with respect to past performance (Kasoga, 2021). For example, in the stock market, investors buy stocks that are being talked about and avoid stocks that have performed poorly in the past (Waweru et al., 2008). The results of this study are in line with previous research from Alwathainani (2012); Khan et al. (2020); and Kasoga (2021) which states that the representativeness bias has a significant positive effect on investors' investment decisions. Investors avoid poor performance in companies and prefer companies that have performed both past and present to invest.

Table 1. Characteristics of Respondents

Indicator	Indicator Item	Amount	Percentage
Gender	Male	256	63%
	Female	148	37%
Age	17-25 years	212	52,5%
	26-30 years	94	23,3%
	31-35 years	48	11,9%
	>35 years	50	12,4%
Investment Experience	<1 year	132	32,7%
	1-2 years	183	45,3%
	3-5 years	61	15,1%
	>5 years	28	6,9%
Monthly Income	Rp 0-1.000.000/month	112	27,7%
	Rp 1.000.000-2.500.000/month	131	32,4%
	Rp 2.500.000-5.000.000/month	74	18,3%
	>Rp 5.000.000/month	87	21,5%

Source: Author Analysis (2022)

Table 2. Construct Reliability and Validity Test Results

Construct	Item Code	Loading Factor	Cronbach's Alpha	Composite Reliability	AVE
Overconfidence Bias	PD1	0.801	0.892	0.916	0.612
	PD2	0.820			
	PD3	0.816			
	PD4	0.821			
	PD5	0.570			
	PD6	0.855			
	PD7	0.760			
Information Availability Bias	BK3	0.878	0.733	0.852	0.661
	BK4	0.667			
	BK5	0.877			
Representativeness bias	BKK1	0.755	0.840	0.882	0.556
	BKK2	0.801			
	BKK3	0.648			
	BKK4	0.812			
	BKK5	0.731			
	BKK6	0.714			
Long Term Orientation	OJP1	0.790	0.777	0.921	0.661
	OJP2	0.852			
	OJP3	0.851			
	OJP4	0.783			
	OJP5	0.780			
	OJP6	0.819			
Investation Decision	KI1	0.776	0.777	0.842	0.517
	KI2	0.785			
	KI3	0.700			
	KI4	0.666			
	KI5	0.661			

Source: Author Analysis (2022)

The results of the first moderation test show that the long-term orientation moderates the relationship between overconfidence bias and investment decisions so that the fourth hypothesis (H4a) can be accepted. According to behavioral financial theory, investors will make irrational investment decisions caused by their own behavioral biases (Parveen et al., 2020). According to prospect theory, Kahneman & Tversky (1979) reveals that someone will seek information first and then several decision frames or decision concepts will be made. Investors usually make rational and irrational decisions because one cannot always obtain relevant information (Lubis, 2019). Therefore, in making investment decisions, it is necessary to consider relevant aspects from various existing disciplines. Such as the effect of long-term orientation which spends more time analyzing and considering optimal investment decisions to achieve

long-term future goals (Bonna & Amoah, 2019). As a result, a person with a long-term orientation will carry out detailed and thorough analysis of their investment decisions and avoid heuristics and other mental shortcuts (Khan et al., 2020), so that overconfidence bias will be avoided in the decision-making process. Therefore, a long-term orientation weakens the relationship between overconfidence bias and investment decisions.

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Finally, the results of other moderating tests show that the long-term orientation cannot moderate the relationship between the bias of information availability and the bias of representation on investment decisions, so that H4b and H4c cannot be accepted. According to the behavioral theory of finance described by Jain et al. (2020) that investors exhibit irrational behavior when making investment decisions. Most investors also often overestimate irrelevant information and underestimate general information (Chandra, 2016). In behavioral finance, psychological bias is used to study and evaluate the investment decisions available to investors (Rahman & Gan, 2020). Therefore, investors in making investment decisions are only based on a small sample and use simple classifications rather than complex data (Shah et al., 2018). Investors will prefer heuristic biases such as past performance and current information rather than using a long-term orientation that performs a complex and time-consuming analysis. So that the long-term orientation does not significantly affect the bias of the availability of information and the bias of representation in investors' investment decisions.

Table 3. Hypothesis Test Results (bootstrapping)

	Original Sample (O)	Sample Mean	STDEV	T Statistics	P Values
X1 -> Y	0.169	0.168	0.050	3.384	0.001
X2 -> Y	0.268	0.269	0.052	5.182	0.000
X3 -> Y	0.185	0.188	0.059	3.122	0.002
Z -> Y	0.265	0.269	0.062	4.287	0.000
Z*X1 -> Y	0.139	0.140	0.061	2.274	0.023
Z*X2 -> Y	0.040	0.043	0.060	0.662	0.508
Z*X3 -> Y	-0.065	-0.066	0.064	1.010	0.313

Note. Y= Investation Decision, X1= Overconfidence Bias, X2= Availability Bias, X3= Representativeness bias, Z= Long term orientation. Source: Author Analysis (2022)

CONCLUSION

This study examines the factors that can drive an investor's investment decision. It is concluded that investors in making investment decisions are influenced by heuristic-driven biases such as overconfidence bias, availability bias, representativeness bias, and long-term orientation. This study confirms that investor behavior in investing is also influenced by various psychological and heuristic biases. Investors who are influenced by heuristic bias (overconfidence bias, availability bias, and representativeness bias usually tend to rely on information that is easily obtained rather than conducting a detailed analysis of all available information. Moreover, investors who are hasty in making decisions more concerned with the short term rather than the long term and take action based on new information. Investment decisions are strongly influenced by individual personal factors. Therefore, different preferences will lead to different behavior. This proves that psychological factors play an important role in decision making. This study provides practical and theoretical contributions. Practically, the results of this study provide knowledge to investors about the effect of heuristic bias on their investment decisions and advise them to avoid bias driven by heuristics and other mental shortcuts. Investors should conduct a detailed analysis of all relevant information during the investment decision-making process. Theoretically, this study adds to the literature on factors that can influence decisions and investment from personal factors so that it further proves that internal factors are an important factor in individual behavior.

The limitation of this study is the determination of the sample that takes the minimum number of samples and is only limited to Indonesia. Future research can expand the sample by adding more samples and observation areas. Another limitation is that this study uses an online questionnaire using a google form, this has a high risk of external validity. Therefore, further research can develop this research using experimental methods. Furthermore, future researchers should also explore the moderating role of other behaviors such as uncertainty avoidance and other behaviors that would otherwise be rational for research.

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