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THE IMPACT OF HERDING BEHAVIOR AND OTHER BEHAVIORAL BIASES ON CAPITAL MARKET DECISIONS IN GENERATION Z STUDENTS

[1]Sihotang A. E and [2]Pertiwi T. K.

Article Info

Keywords: Generation Z, investment decision-making, behavioral biases, overconfidence, regret aversion, loss aversion, herding behavior, risk perception, moderating role, Partial Least Square method, capital markets

Abstract

This study examines the impact of behavioral biases, such as overconfidence, regret aversion, loss aversion, and herding behavior, on investment decision-making in Generation Z students. It also explores the moderating role of risk perception in the relationship between these biases and investment decisions. Data was collected from 120 respondents through a questionnaire-based survey, and the Partial Least Square method was used for analysis. The results indicate that while overconfidence has a significant positive impact on investment decisions, regret aversion, loss aversion, herding behavior, and risk perception have a non-significant effect. The study highlights the importance of understanding behavioral biases in investment decision-making among Generation Z students and the role of risk perception in moderating the impact of these biases on investment decisions. Moreover, it contributes to the growing literature on behavioral finance and its implications for the capital markets.

Introduction

Investment decision-making is a crucial aspect of personal finance, especially among Generation Z students, who are currently starting their careers and have limited financial experience. Research has shown that individual investment decisions are influenced not only by logical reasoning but also by various behavioral biases. Behavioral finance is a field of study that incorporates psychology, sociology, and economics to explore how cognitive and emotional factors affect financial decision-making. Many studies have explored the impact of behavioral biases on investment decision-making; however, little attention has been paid to their impact on Generation Z students.

Therefore, this study aims to investigate the influence of behavioral biases, such as overconfidence, regret aversion, loss aversion, and herding behavior, on investment decision-making among Generation Z students. In addition, we examine the moderating role of risk perception in the relationship between these biases and investment decisions. Data is collected through a questionnaire-based survey from 120 respondents who are Generation Z students from a university in Surakarta. The collected data is analyzed using the Partial Least Square method.

[1,2]Faculty of Economics and Business, Muhammadiyah University of Surakarta, Central Java, Indonesia

The study's findings will have practical significance for investors, policymakers, and investment managers. Investors can learn about the impact of behavioral biases on decision-making and try to mitigate their effects when making investment decisions. Policymakers can use the study's results to develop policies to prevent the negative impact of behavioral biases on investors. Investment managers can use the findings to adjust how they communicate with investors to address behavioral biases.

Moreover, the study will contribute to the existing literature on behavioral finance, particularly in the context of emerging markets. By understanding how behavioral biases affect investment decision-making among Generation Z students, we can better design interventions and policies to encourage informed decision-making and improve investor outcomes.

OBJECTIVE OF THE STUDY

To study the influence of behavior that influences an investor to make investment decisions

REVIEW OF LITERATURE

Overconfidence is an emotional deviation possessed by a person by believing that he is trained and has enough information about a decision. Overconfidence behavior makes investors feel overestimating their investment knowledge and underestimating predictions or recommendations given by experts because these investors overestimate their abilities (Nofsinger, 2015: 10). If an investor is too confident in the decisions taken, it is likely that the person will ignore the risks that exist so that they end up bearing greater risks in making investment decisions.

regret aversion is the tendency to avoid decision making for fear of experiencing regret (Singh, 2015). Regret aversion arises from investors' desire to avoid regrets due to wrong investment decisions. This behavior encourages investors to hold underperforming stocks to sell to avoid losses. When an investor holds paper stock profits, the investor is worried about the stock price falling, so the investor sells paper profit shares into realized profits. Conversely, when investors hold paper loss stocks, investors will expect the stock price to rise in the future, so they will benefit from the shares.

Loss Aversion is a condition where investors feel if they experience losses in investing. According to Areiqat et al., (2019), loss aversion is the dominant feeling of an investor to avoid losses rather than gains. This behavior also causes a person to tend to hold his investment when experiencing a loss and immediately sell when his investment is in a profit position, this happens because investors feel they will experience greater disappointment when their investment is lost than when their investment conditions are obtained.

Herding behavior is behavior that tends to follow the actions of others caused by the influence of public information about group or individual decisions (Areiqat et al., 2019). This behavior describes a situation where someone does something to be the same as what many people do (Asri, 2015). Herding behavior can occur because investors feel the unavailability of clear information that encourages investors to follow the noise that occurs in the market (Fityani &; Arfinto, 2015).

Investment decision is the placement of a number of funds at this time with the hope that it can provide greater returns in the future (Halim, 2005). For an investor, information is crucial for investment decision making. So that in making decisions, information is needed that helps in determining investment choices. Factors supporting investment appraisal to make it easier for investors to choose the best investment among existing investment alternatives. According to Lubis (2016: 120), investment decisions are influenced by information received by investors and then supported by investor knowledge about investment.

Risk perception is an investor's measurement of investment risk based on the beliefs and experiences experienced by investors. According to Sihotang &; Pertiwi (2021), risk perception is the influence of psychological factors that have an impact on purchasing decisions. The perception of high and low risk can be based on the investor's individual factors, investment product, situation, and cultural factors. If an investor has a high level of risk perception, it will make investors more cautious, and vice versa (Baghani & Sedaghat, 2016). Every investor has a different level of tolerance for risk.

METHODOLOGY AND SAMPLE SIZE

This type of research used quantitative research using questionnaire sueveys. The type of data use in this study is primary data obtained directly from respondens. The respondents needed are generation Z students, faculty of Economic and Business, University of Muhammadiyah Surakarta. The retrieval method used is cluster sampling. The list of question was disseminated online through Google Form, and from the distribution of questionnaires obtained 120 respondents with predetermined criteria. Data that has been collected will be analyzed using the smartPLS 3.0 application. SmartPLS is used to predict the relationship between construction and manufacturing theory and is used to explain whether there is a relationship between latent variables where latent variables are variables that cannot be measured directly.

DATA ANALYSIS

Characteristics of Respondens

The characteristics of the responden help know the overall picture of the research respondents. To find the out The parts of the respondents can be seen in the following table:

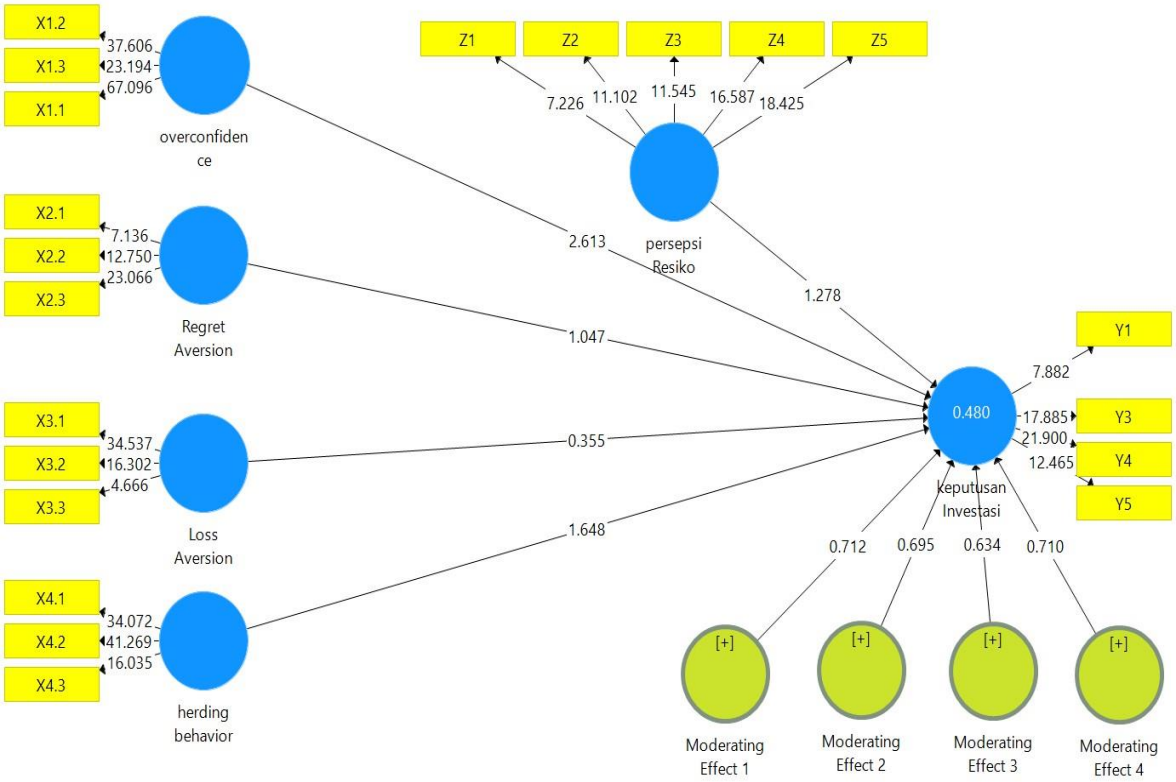
	Criteria	Information	frequency	percentage
1	Gender	Man Woman	36 84	30% 70%
2	Age	20 21 22 23 24 25	15 54 38 11 1 1	12% 45% 31% 10% 1% 1%
3	Study Program	Management Accounting Economic Development	7 104 9	5,9% 86,6% 7,5%
4	Total expenses per month	< Rp 500.000 Rp 500.000 – Rp 1.000.000 >Rp 1.000.000	22 47 51	18,3% 39,2% 42,5%

Source: Primary data, 2023

From the data table above, it can be concluded that most of the Generation Z students of the University of Muhammadiyah Surakarta that respondents with female gender aged 21 years who majored in accounting study programs with expenditures of > IDR 1,000,000 dominated.

b. Measurement Model Test (Outer Model)

This model is used to test convergent validity, discriminant validity, and research instrument reability. To get accurate calculation results, validity testing, and reliabilty testing in this study using smartPLS 3.0 software.the following is a model the outer model test:



Based on the outer model scheme, it is known that all indicators in this study have a factor loading value of > 0.6. who indicates that all hands in this study meet the convergent validity test. The outer model test that needs to be done next is the discriminant validity test. Outer loading test results for the discriminant validity of each indicator can be seen in the following table.

Variable	Indicator	Outer Loading	Information
Overconvidence (X_1)	O1	0.891	Valid
	O2	0.825	Valid
	O3	0.919	Valid
Regret Aversion (X_2)	RA1	0.705	Valid
	RA2	0.829	Valid
	RA3	0.864	Valid
Loss Aversion (X_3)	LA1	0.902	Valid
	LA2	0.869	Valid
	LA3	0.662	Valid
Herding Behavior (X_4)	HB1	0.896	Valid
	HB2	0.911	Valid
	HB3	0.809	Valid

Invesment decision(Y)	K1	0.648	Valid
	K3	0.810	Valid
	K4	0.805	Valid
	K5	0.769	Valid
Risk Perception (Z)	PR1	0.633	Valid
	PR2	0.805	Valid
	PR3	0.784	Valid
	PR4	0.837	Valid
	PR5	0.724	Valid

Source: Primary Data, 2023

Based on the table above, it is known from each research indicator variable has an outer loading value of > 0.07.

1. Discriminant validity

Apart from looking at the outer loading value, convergent validity can also be assessed by looking at the AVE (Average Variance Extracted) value> 0.5 so that it can be said to be valid in convergent validity (Fornell & Larcker, 1981).

Variable	***Average Variance Extracted* (AVE)**	**Keterangan**
Overconfidence	0.773	Valid
Regret Aversion	0.644	Valid
Loss Aversion	0.669	Valid
Herding Behavior	0.762	Valid
Invesment Decision	0.579	Valid
Risk Perception	0.583	Valid

Source: Primary Data,2023

2. Reliability validity

Reliability testing in this study used composite Reliability and Cronbach Alpha.

Composite reliability is one of the ways used to test the reliability of each variable indicator. A construct is considered reliable if the composite reliability has a value of > 0.7, then the construct is declared reliable.

Construct Reliability and Validity	**Composite Reliability**	**Information**
Overconfidence (X_1)	0,911	**Reliabel**
Herding Behavior (X_4)	0,905	**Reliabel**
Risk Perception (Z)	0,874	**Reliabel**

Loss Aversion (X_3)	0,856	**Reliabel**
Invesment decision(Y)	0,845	**Reliabel**
Regret Aversion (X_2)	0,843	**Reliabel**

Source: Primary Data, 2023

Judging from the value of composite reliability on each variable whose magnitude is > 0.70 shows that everything is reliable.

The last reliability test is Cronbach's α (alpha) where this test is a statistical technique that can be used to measure internal consistency in instrument reliability tests or psychometric data. According to Cronbach (1951), the construct is said to be reliable if the composite alpha > 0.60. Below are the results of Cronbach's Alpha values that will be displayed in the table.

Construct Reliability and Validity	Cronbach Alpha	Information
Overconfidence (X_1)	0,853	**Reliabel**
Herding Behavior (X_4)	0,842	**Reliabel**
Risk Perception (Z)	0,819	**Reliabel**
Loss Aversion (X_3)	0,764	**Reliabel**
Invesment decision(Y)	0,753	**Reliabel**
Regret Aversion (X_2)	0,730	**Reliabel**

Source: Primary Data, 2023

These results show that each research variable has met the requirements of Cronbach's alpha, so it can be concluded that all variables have a high level of reliability.

3. Multicolinearity validity

The multicollinearity test is used to determine multicollinearity between variables by looking at the tolerance value between independent variables. The following results of the multicollinearity test have been presented in the table:

Inner VIF Value	VIF	Information
Overconfidence (X_1) => *Risk Perception* (Z)	**1000**	*Non Multicollinearity*
Regret Aversion (X_2) => *Risk Perception* (Z)	**1000**	*Non Multicollinearity*
Loss Aversion (X_3) => *Risk Perception* (Z)	**1000**	*Non Multicollinearity*
Herding Behavior (X_4) => *Risk Perception* (Z)	**1000**	*Non Multicollinearity*

Source: Primary Data, 2023

From the table above, it can be concluded that all variables of VIF values < 5, meaning that this research regression model can be said to be free from multicholinerity or Non Multicollinearity.

C. Inner Model Analysis 1. Model Goodness Test (Goodness of fit)

Structural model evaluation was carried out to show the relationship between the manifest and latent variables of the main, moderator and outcome predictor variables in a complex model. The goodness-of-fit test of this model consists of two tests, namely R-Square (R2) and Q-Square (Q2). The value of R2 or R-Square shows the determination of the exogenous variable on the endogenous variable. The greater the value of R2, the better the level of determination. R2 values of 0.75, 0.50, and 0.25 show that the model is strong, moderate, and weak (Imam Ghozali, 2015).The value of the coefficient of determination can be shown in the following table:

Inner VIF Value	***R Square***	***R Square Adjusted***
Invesment decision	0,506	0,437

Source: Primary Data, 2023

The ability of exogenous variables in explaining Y is 0.437 (moderate), so it is said that the ability of the influence of Overconfidence, Regret Avesion, Loss Aversion, and Herding Behavior variables on investment decisions is quite strong at 0.437, while the remaining 0.563 is an independent varaibel influence.

2. Hypotesis testing

Hypothesis testing in this study can be seen in the path coefficient value for direct influence.

Then if the value (P-Value) < 0.05 (5%) and the value (t-statistics) > 0.677 (t-table), it means significant and if the value (P-Value) > 0.05 (5%) and the value (t-statistics) < 0.677 (t-table), it means insignificant. The following analysis of direct effects in this study is seen through the path coefficients of bootstrapping techniques as follows:

Part Coefficient	***H***	***Origina l sampel***	***T statistic***	***P Value***	***Keterangan***
Overconfidence (X_1) => Investment decision	H_1	0.254	2.517	0.012	*Positive, Significant*
Regret Aversion (X_2) => Investment decision	H2	0.116	1.140	0.255	*Positive, Not significant*
Loss Aversion (X_3) => *Invesment decision*	3	-0.035	0.366	0.714	*Negative, Not significant*
Herding Behavior (X_4) => *Investment decision*	H H_4	0.188	1.650	0.100	*Positive, Not significant*

Source: Primary Data, 2023

Based on the result of the path coeficient above, it can be interpreted as follows:

1) The test results showed that the t-statistic value was 2.454 and the original sample was positively charged with a p-value of 0.012. From this result, the t-statistic > 1.96 and the p-value < 0.05. So it can be concluded that overconfidence affects investment decisions.

2) The results of the analysis showed that the t-statistic value was 1.140 and the original sample was positively charged with a p-value of 0.255. From this result, t-statistic < 1.96 and p-value > 0.05. So it can be concluded that the Aversion regeret has no effect on investment decisions.

3) The results of the analysis showed that the t-statistic value was 0.366 and the original sample was negatively charged with a p-value of 0.714. From this result, t-statistic < 1.96 and p-value > 0.05. So it can be concluded that loss aversion has no effect on investment decisions.

4) The results of the analysis showed that the t-statistic value was 1.650 and the original sample was positively charged with a p-value of 0.100. From this result, t-statistic > 1.96 and p-value > 0.05. so that. So it can be concluded that herding behavior has no effect on investment decisions.

3. Moderated Regression Analysis

Moderated regression analysis aims to explain the results of significant influence indirectly using moderators. The results of the analysis in this study can be seen through the table of Indirect Effects bootstrapping techniques as follows:

Part Coefficient	***H***	***Origina l***	***Keterangan***	***T statistic***	***P Value sampel***
Overconfidence (X1) => Invesment decision(Y) => *Risk Perception* (Z)	H5	0.106	0.686	0.493	*Positive, Tidak Significant*
*Regret Aversion (*X*) => Invesment decision*(Y)) => *Risk Perception* (Z)	H6	0.125	0.674	0.500	*Positive, Tidak significant*
Loss Aversion (X) => *Invesment decision*(Y)) => *Risk Perception* (Z)	H7	-0.117	0.658	0.517	*Negative, tidak significant*
Herding Behavior (X) => *Invesment decision*(Y)) => *Risk Perception* (Z)	H8	0,113	0.684	0.494	*positive, Tidak significant*

Source : Primary Data,2023

Based on the result of the path coeficient above, it can be interpreted as follows:

1) The results of the analysis showed that the t-statistic value was 0.686 and the original sample was positively charged with a p-value of 0.493. From this result, t-statistic < 1.96 and p-value > 0.05. so that Risk Perception does not have a significant effect, so it does not moderate the relationship between Overconfidence in Investment Decision making.

Overconfidence is someone who has a confident attitude. The results of this study are in line with research conducted by Aqib Rizka Ar-Rachman (2018) and Sihotang & Pertiwi (2021), showing that overconfidence has a significant positive effect on investment decisions. The test results show that the t-statistic value is 2.454 and the original sample is positively charged with a p-value of 0.012. This illustrates that investors with high overconfidence are also confident in predicting market conditions.

b. The Effect of Regret Aversion on Investment Decisions in the Capital Market

Regret Aversion is the tendency to avoid making decisions for fear of experiencing regret (Singh, 2015). The results of this study are in line with research from Ady (2019) which states investors who behave like this, will experience hesitancy to invest due to getting losses from investing and most young investors are not rational investors. This is evidenced by the test results showing that the t-statistic value is 1.140 and the original sample

is positively charged with a p-value of 0.255. From this result, t-statistic < 1.96 and p-value > 0.05. This can be said if regret aversion increases, then investment decisions in the capital market will decrease.

c. The Effect of Loss Aversion on Investment Decisions in the Capital Market

Loss aversion is a condition where investors feel that they have suffered losses in investing more than they have made a profit. The results of this study are in line with the results of research from Pradhana (2018), which shows that loss aversion does not have a significant effect on investment decisions. This is evidenced by the test results which show that the TStatistic value is 0.366 and the original sample is negatively charged with a P value of 0.714. From this result, the t-statistic < 1.96 and the p-value > 0.05. The reason for the absence of loss aversion impact on investment decisions is that investors do not feel afraid if they experience losses.

d. The Influence of Herding Behavior on Investment Decisions in the Capital Market

Herding behavior is a behavior that tends to follow the actions of others caused by the influence of public information about group or individual decisions (Areiqat et al., 2019). This is in line with research conducted by Pranyoto et al., (2020), which states that herding behavior does not have a significant effect on investment decisions. This is evidenced by the results of the study which showed that the t-statistic value was 1,650 and the original sample was positively loaded with a p-value of 0.100. From this result, t-statistic > 1.96 and p-value >0.05. Rational generation Z investors pay attention to information and analyze fundamentally and technically so as to make the right decisions.

e. Risk Perception moderates the relationship between Overconfidence and Investment Decision making.

The results of the analysis showed that risk perception could not moderate the effect of overconfidence with investment decisions by showing the results that the t-statistic value was 0.686 and the original sample was positively loaded with a p-value of 0.493. From this result, t-statistic < 1.96 and p-value > 0.05. So it can be interpreted that the risk perception variable has a positive influence that is not significant so that it cannot moderate the influence of overconfidence with investment decisions.

f. Risk Perception moderates the relationship between Regret Aversion and Investment Decision making

The results of the analysis showed that risk perception could not moderate the effect of regret aversion with investment decisions by showing the results that the t-statistic value was 0.674 and the original sample was positively loaded with a p-value of 0.500. From this result, tstatistic < 1.96 and p-value > 0.05. So it can be interpreted that risk perception variables do not have a significant effect so that they cannot moderate the effect of regret aversion with investment decisions.

g. Risk Perception moderates the relationship between Loss Aversion and Investment Decision making

The results of the analysis showed that risk perception could not moderate the effect of Loss Aversion with investment decisions by showing the results that the t-statistic value was 0.648 and the original sample was negatively charged with a p-value of 0.517. From this result, tstatistic < 1.96 and p-value > 0.05. So it can be interpreted that risk perception variables do not have a significant effect so that they cannot moderate the effect of loss aversion with investment decisions.

h. Risk Perception moderates the relationship between Herding behavior and Investment

Decision making

The results of the analysis showed that risk perception could not moderate the influence of Herding Behavior on investment decisions, showing that the t-statistic value was 0.684 and the original sample was positively charged with a p-value of 0.494. From this result, t-statistic < 1.96 and p-value > 0.05. So it can be interpreted that risk perception variables do not have a significant effect so that they cannot moderate the influence of herding behavior with investment decisions.

CONCLUSION

Based on the results of data analysis and discussion that has been explained in the previous chapter, that this study was conducted to determine the effect of Overconfidence, Regret Aversion, Loss Aversion and Herding Behavior on Investment Decisions in the Capital Market with Risk Perception as a moderation variable. So it can be

concluded from the regression analysis Overconfidence has a significant influence on investment decisions, the hypothesis is accepted, while Regret aversion, Loss Aversion, Herding Behavior does not have a significant influence on investment decisions so the hypothesis is not accepted. Similarly, hypotheses five through eight that use the influence of risk perception as a moderator variable show that risk perception cannot moderate overconvidence, regret aversion, loss aversion and herding behavior towards investment decisions.

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