THE INFLUENCE OF OVERCONFIDENCE, HERDING, REGRET AVERSION, AND RISK TOLERANCE ON INDIVIDUAL INVESTMENT DECISIONS

(A Study on Gold Investment in Semarang)

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***ABSTRAK**: Penelitian ini bertujuan untuk menganalisis pengaruh Overconfidence, herding, regret aversion, dan risk tolerance terhadap pengambilan keputusan investasi individu. Populasi dari penelitian ini adalah masyarakat di Kota Semarang dengan jumlah sampel sebanyak 100 responden. Teknik pengambilan sampel dalam penelitian ini menggunakan purposive dan snowball sampling. Teknik pengujian data yang digunakan dalam penelitian ini meliputi uji validitas dan uji reliabilitas. Metode analisis data yang digunakan adalah analisis regresi linier berganda dengan bantuan SPSS for windows version 22.0. Hasil penelitian ini menunjukkan bahwa Overconfidence, herding, dan risk tolerance memiliki pengaruh positif dan signifikan terhadap keputusan investasi individu di Semarang. Sedangkan regret aversion berpengaruh positif tetapi tidak signifikan terhadap keputusan investasi di Semarang.*

***Kata kunci**: Overconfidence, herding, regret aversion, risk tolerance, keputusan investasi.*

***ABSTRACT**: This study aims to analyze Overconfidence, herding, regret aversion, and risk tolerance on individual investment decision making. The population of this study is the community in Semarang City with a sample size of 100 respondents. The sampling technique in this study used purposive and snowball sampling. Data testing techniques used in this study include validity testing and reliability testing. The data analysis method used is multiple linear regression analysis with the help of SPSS for Windows version 22.0. The results of this research show that Overconfidence, herding, and risk tolerance have a positive and significant influence on individual investment decisions in Semarang. While regret aversion has a positive but not significant effect on investment decisions in Semarang.*

***Keywords**:overconfidence, herding, regret aversion, risk tolerance, investment decisions*

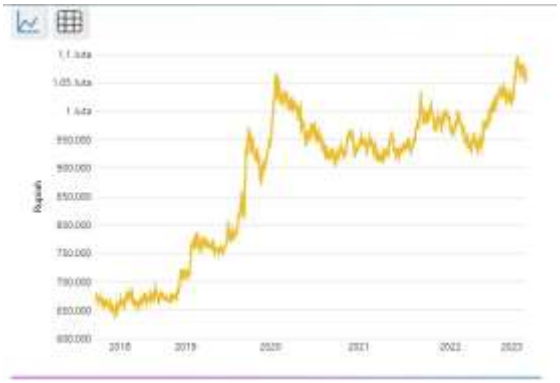
1. INTRODUCTION

Investment decision-making is a crucial aspect of the business and financial world. These decisions not only affect the sustainability and growth of companies but also the financial well-being of the individuals involved. In a dynamic and uncertain environment like the present, it is essential for business players and investors to have a deep understanding of the factors influencing their investment decisions. Investment itself can be defined as the allocation of resources, such as capital, time, or effort, with the expectation of gaining future profits.

According to (Safryani et al., 2020), investment is an economic activity that involves placing a certain amount of money, either directly or indirectly, with the intention that the capital owner will gain benefits or profits from the invested capital. Based on its form, investment is divided into two categories: investment in real assets, such as land and buildings, and investment in financial assets, such as stocks, bonds, mutual funds, deposits, and others. The financial management approach that studies investor behavior in decision-making is known

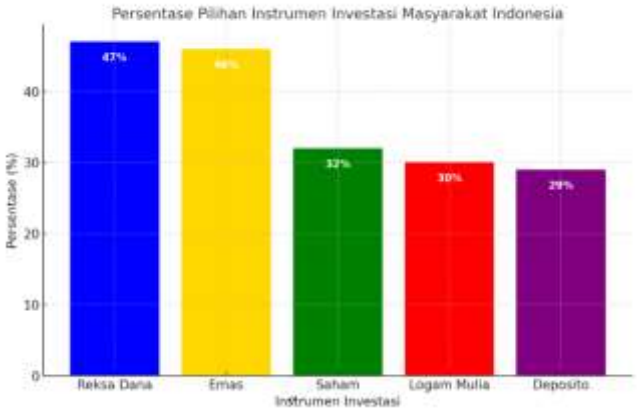
as behavioral finance. Besides economics, especially financial management, behavioral finance also involves psychology. An investor's psychological factors significantly influence their investment decisions. One common behavior among investors is overconfidence. According to (Rakhmatulloh & Asandimitra, 2019), overconfidence does not have a significant effect on investment decisions. This contrasts with the research of (Addinpujoartanto & Darmawan, 2020), (Salvatore & Esra, 2020), and (Aristiwati, 2022), which found that overconfidence significantly impacts investment decisions. This means that the higher a person's level of overconfidence, the more likely they are to make investment decisions. Overconfident individuals tend to be more willing to take risks in investments because they believe they can manage or predict investment outcomes well.

The second behavior is herding. According to (Damotik, 2020), herding has a significant positive effect on investment decisions. Meanwhile, according to (Ananda, 2022), herding does not have a significant effect on investment decisions. However, the research by (F. S. Sari, 2021), (Santoso, 2022), and (Oktaviani, 2023) supports the findings of (Safitri, 2021), which state that herding has a significant positive effect on investment decisions. This indicates that investor behavior of following the investment decisions of others or groups has a clear and positive impact on individual investment decisions. In other words, when investors see that many other investors are buying or selling an asset, they tend to follow that action, and this tendency significantly affects their investment decisions. The third behavior is regret aversion. According to (Faradiba, 2022), regret aversion does not affect investment decisions. On the other hand, (Oey, 2021), (Ananda, 2022), and (Putri et al., 2023) found that regret aversion does affect investment decisions, meaning that the stronger an investor's fear of regret, the more likely they are to make certain investment decisions. This shows that investors who tend to avoid regret are more cautious and may be more inclined to choose investments that are considered safer or have lower risks. The last variable is risk tolerance. According to (Purnamasari, 2018), risk tolerance positively affects investment decisions. However, according to (Lestari & Wardani, 2020) and (AJI & Puryandani, 2021), there is no effect between risk tolerance and investment decisions. The view of (Purnamasari, 2018) is supported by the research of (Lathifatunnisa, 2021) and (Faradiba, 2022), meaning that the higher an investor's risk tolerance, the more likely they are to make bolder or riskier investment decisions.



Graph 1. Antam Gold Prices in the Last 5 Years
Source: https://databoks.katadata.co.id/

To calculate the profit from this investment, it's important to understand that in gold bar or precious metal investments, there are buying prices and buyback prices. The buying price of gold is the price at which investors purchase gold from a provider or gold shop. Meanwhile, the buyback price of gold is the price applicable when investors sell back their gold. The buyback price is usually lower than the buying price on the same day. However, over time, if the price of gold continues to trend upward, the buyback price will become equivalent to the buying price at the time of purchase.



Graph 2. Percentage of Investment Instrument Choices of the Indonesian People

Based on the graph above, mutual funds are the most popular choice. Although mutual funds remain the most preferred investment option, gold is also still a favored investment instrument among the public. In recent years, financial awareness among Indonesians has increased significantly. According to the survey report "Insights and Future Trends of Investment in Indonesia," 72% of respondents have started investing, especially among millennials. This figure shows a significant increase compared to the Populix survey in January 2021, which showed that 44% of respondents had invested. Mutual funds, with a percentage of 47%, have remained the most chosen investment instrument since 2021, mainly due to their relatively low capital requirements and risks, making them an ideal choice for beginner investors. However, gold still holds an important position, with 46% of respondents choosing it as their investment instrument. The advantages of gold as an investment include its inflation resistance, high liquidity, and stable price, making it an attractive choice.

In addition, 32% of respondents chose stocks, despite this instrument having higher risks compared to mutual funds and gold. These high risks are offset by the potential for substantial returns. Meanwhile, 30% of people opted for investments in other precious metals, which offer various types and forms, such as coins, bars, and certificates, with prices generally higher than gold jewelry. Finally, fixed deposits remain attractive to 29% of people who seek returns from high interest rates and investment security, although the invested money cannot be withdrawn before the specified period.

Gold investments remain popular because their value tends to be stable and even increase, leading many to choose gold as a form of long-term investment. Currently, the options for gold investments are increasingly diverse, including: gold jewelry, which is the most popular type of gold investment because it can serve as an asset while also being worn as jewelry. This type is often a favorite among women because its design can be tailored to personal taste. However, the return value of gold jewelry is not very high due to various factors such as usage, gold weight reduction, production style, and gem model. Gold bars or bullion are considered the safest type of investment. Their value continues to increase, their liquidity is high, and they are

not significantly affected by external factors. If seeking long-term profits, gold bars are the right choice. Online or digital gold is a practical and easy way to invest in gold. With online gold, one can purchase gold digitally without worrying about storage. The buying process is also very easy, similar to saving money in a bank. First, you need to open a gold savings account. Some platforms that provide online gold services in Indonesia include Shopee with its Shopee Gold Savings feature, which allows users to buy gold starting from a small amount; Tokopedia through its Tokopedia Gold Savings, which makes it easy for investors or app users to save gold practically; and Pegadaian Digital, which offers gold savings services with high security and trust, supported by Pegadaian as a well-known institution.

Gold investment offers various benefits that make it an attractive choice for many investors. One of the main benefits is that the value of gold assets tends to remain stable over time, thanks to the clear demand and supply in the market. This reduces the risk of sharp price fluctuations, making gold a safe choice for wealth preservation. Additionally, gold investments can be easily converted into cash, whether in physical or digital form, because gold is recognized globally and widely accepted as a financial instrument. Another advantage is that gold investment is free from interest on its value, so when selling gold, investors will receive a value equivalent to what they own without any reduction due to interest. Gold investment also functions like an emergency fund; the more regularly investors save, the stronger their financial position, whether for retirement preparation or emergency situations. With its value tending to increase year over year, gold becomes an effective tool in protecting wealth value.

Based on the phenomena and conditions described above, this research is conducted to investigate "THE EFFECT OF OVERCONFIDENCE, HERDING, REGRET AVERSION, AND RISK TOLERANCE ON INDIVIDUAL INVESTMENT DECISIONS (Gold Investment Study in Semarang)." By posing several research questions: (i) Does overconfidence affect individual investment decisions in Semarang? (ii) Does herding affect individual investment decisions in Semarang? (iii) Does regret aversion affect individual investment decisions in Semarang? (iv) Does risk tolerance affect individual investment decisions in Semarang?. "From the questions, four hypotheses are derived as follows:

H1: Overconfidence has a positive effect on Investment Decision Making
H2: Herding has a positive effect on Investment Decision Making
H3: Regret Aversion has a positive effect on Investment Decision Making
H4: Risk Tolerance has a positive effect on Investment Decision Making"

2. METHOD

This study is quantitative in nature, using primary data obtained directly from the field through the distribution of questionnaires. The data collected is primary data obtained from respondents' answers via an online questionnaire using Google Forms. The questionnaire is measured using a Likert scale, which consists of five response options: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5) (Sugiono, 2019). After the data is collected, the results will be analyzed using SPSS.

2.1 *Population*

Sugiono, 2019) explains that a population is a generalization area that originates from objects/subjects with a specific number and characteristics that are validated by researchers in order to be understood and to draw conclusions. The population to be studied in this research is the total number of residents of Semarang city, categorized by gender, which amounts to 1,694,743 people (Badan Pusat Statistik Kota Semarang, 2023).

2.2 *Sample and Sampling Technique*

According to (Sugiono, 2019), a sample is a part of the number and characteristics of a population. Therefore, the sample taken from the population must be truly representative of the community or individuals in Semarang. To determine the size of the sample needed to represent the population in this study, the Slovin formula can be used. The total sample size in this study is based on a population of 1,694,743 residents of Semarang, with a margin of error of 10%. Based on the calculation, the result is 100 respondents. The sampling technique used involves non-probability sampling methods, specifically snowball sampling and purposive sampling. Snowball sampling can be conducted by selecting samples based on information from the first sample encountered. Meanwhile, purposive sampling is a method where samples are selected based on specific criteria as follows:

a. The individual or community resides and lives in Semarang
b. Aged 20 – 55 years
c. Has experience in gold investment

2.3 *Operational Definition of Variables*

According to Sugiono (2019), the operational definition of a research variable is a symbol or value of an activity with a specific range that has been approved by the researcher to be observed and tested, with conclusions to be drawn. This operational definition explains the operational concept of each variable used in the research concerning the indicators that constitute it. The operational definition in this research is as follows:

Tabel 2.1. Definisi operasional variabel

Variable	***Research Variables***	***indicator***	***Interval***
X1= Overconfidence	*According to (Hadrian & Adiputra, 2020), overconfidence is a condition where a person makes decisions based on irrational factors, specifically excessive self-confidence that drives the motivation to invest.*	*1. Self-confidence* *2. Not relying on others* *3. Believing that their skills and knowledge can help them outperform the market* *4. When purchasing investments, they believe they will make a profit (Ananda, 2022)*	*Likert scale 1-5*
X2= Herding	*Herding is the behavior of investors who tend to follow the actions of other investors (Ramdani, 2018).*	*1. Making decisions based on the opinions of friends and family or imitating others.* *2. News about gold developments influences investment decisions.* *3. Investment decisions are based on the most common choices / majority.* *4. A lack of decisions made based on oneself (Aristiwati, 2022)*	*Likert scale 1-5*

X3= Regret Aversion	*According to (Budiarto & Susanti, 2017), Regret Aversion is the feeling of regret caused by past mistakes, which influences future decisions*	*1. Investment loss experience* *2. Have you ever felt regret when making an investment?* *3. Tendency to avoid investments that result in losses* *4. Impact of subsequent investments from investment loss experience (Ananda, 2022)*	*Likert scale 1-5*
X4= Risk Tolerance	*According to (Nurdinda et al., 2020), risk tolerance is the condition in which an investor can accept the risk arising from investment product choices in accordance with their investment preferences.*	*1. Speculative investments using income.* *2. Purchasing instruments without evaluation.* *3. Investing in instruments that yield high returns. (Budiarto & Susanti, 2017)*	*Likert scale 1-5*
Y= investment decisions	*According to Safryani et al. (2020), investment is an activity in the economy that involves placing a sum of money directly or indirectly with the aim of providing the capital owner with benefits or profits from the invested capital.*	*1. Investment Budget Discipline* *2. Proportion of Income for Investment* *3. Availability of Funds for Investment* *4. Generating High Returns (Faradiba, 2022)*	*Likert scale 1-5*

2.4 *Analysis procedure*

In this study, the analysis process using SPSS is divided into several stages, namely:

1. Research Instrument Testing

a. **Validity Test** According to Ghozali (2018), validity testing is used to assess whether a questionnaire is valid or legitimate. This validity test is intended to demonstrate the capability of the research tool in relation to the measurement goal or what is intended to be assessed. A questionnaire is considered valid if the questions in the questionnaire are able to reveal what is intended to be measured. In this research, validity testing is performed using the corrected item-total correlation method, where: a. If the calculated r is positive and r calculated > r table, the question is valid. b. If the calculated r is negative and r calculated < r table, the question is invalid.

b. **Reliability Test** According to Ghozali (2018), reliability testing indicates how dependable or trustworthy a measuring instrument is. If a person's responses to statements or questions remain relatively stable over time, the questionnaire is considered reliable. Sugiono (2019) states that if the data produced is the same after being used multiple times to measure the same object, the instrument is considered reliable. A variable is considered reliable if it has an alpha (α) value > 0.7, meaning that if the research is repeated with different times and dimensions, it will yield the same conclusions. Conversely, if alpha (α) < 0.7, it indicates lower reliability, meaning that if the variable is re-researched at different times, it will yield different conclusions.

2. Classical Assumption Testing

a. **Normality Test** According to Ghozali (2018), the normality test aims to investigate whether the residual or disturbance variables in the regression model have a normal distribution. Data that is normally distributed means it represents the actual population well and can be considered good data. There are two ways to test normality in this study: a. If the Kolmogorov-Smirnov probability (sig) value is greater than 0.05, the data is said to be normally distributed. b. If the Kolmogorov-Smirnov probability (sig) value is less than 0.05, the data is said to be not normally distributed.
b. **Multicollinearity** Test According to Ghozali (2018), the multicollinearity test is used to explore whether there is correlation among the independent variables in the regression model. A regression model is considered good if there is no correlation among the independent variables. To determine the presence of multicollinearity in the regression model: a. If the tolerance value ≤ 0.10 or VIF ≥ 10, there is multicollinearity. b. If the tolerance value ≥ 0.10 or VIF ≤ 10, there is no multicollinearity.
c. **Heteroscedasticity** Test According to Ghozali (2018), the heteroscedasticity test aims to determine whether there are differences in the variance of residuals from one observation to another in a regression model. If the variance of residuals remains consistent from one observation to another, it is called homoscedasticity, and if it varies, it is called heteroscedasticity. A good regression model exhibits homoscedasticity or no heteroscedasticity. To detect heteroscedasticity in this research, the Glejser test can be used with the following criteria: a. If the significance value > 0.05, the data does not contain heteroscedasticity. b. If the significance value < 0.05, the data contains heteroscedasticity.

3. Multiple Linear Regression Analysis According to Ghozali (2018), multiple linear regression analysis represents the linear relationship between two or more dependent variables with independent variables. This analysis is used to determine the direction of the relationship between independent and dependent variables, assess whether each independent variable has a positive or negative relationship, and predict the value of the dependent variable when the independent variables increase or decrease. The multiple linear regression equation in this research can be formulated as follows:

$\gamma = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$

Where:

γ = Investment Decision
α = Constant
βi = Regression Coefficient
ε = Error Term
X1 = Overconfidence
X2 = Herding
X3 = Regret Aversion
X4 = Risk Tolerance

4. Model Goodness Test (F-Test and Coefficient of Determination)

a. **Coefficient of Determination (R^2)** According to Ghozali (2018), the coefficient of determination (Adjusted R^2) is useful for determining how well the research model explains the variance of the dependent variable. The value of the coefficient of determination ranges from zero to one. A low R^2 value indicates that the independent variables' ability to explain the dependent variable is low, meaning there is a smaller influence of independent variables on the dependent variable. Conversely, if R^2 is close

to one, it indicates that the independent variables can explain the dependent variable well, showing a larger influence of independent variables on the dependent variable.

b. **F-Test** According to Ghozali (2018), the F-test can serve as a parameter to determine how much the independent variables simultaneously influence the dependent variable. The calculated F value is compared with the F table at a significance level of 5%. The hypotheses to be tested are: H0 = There is no significant simultaneous effect of the independent variables on the dependent variable. Ha = There is a significant simultaneous effect of the independent variables on the dependent variable. The criteria for testing the F-statistic are: If F calculated < F table and has a significance > 0.05, then H0 is accepted and Ha is rejected. If F calculated > F table and has a significance < 0.05, then H0 is rejected and Ha is accepted.

c. **Hypothesis Testing - t-Test** According to Ghozali (2018), the t-test is used to explain the extent to which each independent variable individually affects the dependent variable. The calculated t value is compared with the t table at a significance level of 5%. The hypotheses to be tested are: H0 = There is no significant partial effect of the independent variables on the dependent variable. Ha = There is a significant partial effect of the independent variables on the dependent variable. The criteria for testing the t-statistic are: If t calculated < t table and has a significance > 0.05, then H0 is accepted and Ha is rejected. If t calculated > t table and has a significance < 0.05, then H0 is rejected and Ha is accepted.

3. RESULT AND DISCUSSION

Respondent Description

In this study, the data used is primary data obtained by using a questionnaire that was distributed to the public in Semarang. Based on this, the population data for this study consists of 100 respondents. The questionnaires were distributed randomly in various locations in Semarang. Additionally, it was ensured that the respondents either have invested or are currently investing in gold. Below is a general overview. The distribution of the results of this study is presented as follows:

Table 3.1. Respondents by Gender

Gender	Quantity	Percentage
Pria	30	30%
Wanita	70	70%
Jumlah	100	100%

Based on Table 3.1, the majority of people in Semarang who invest in gold are women, with a percentage of 70%.

Table 3.2. Respondents Based on Education

PENDIDIKAN	Quantity	Percentage
SMA	10	10%
D3	25	25%
S1	50	50%
S2	15	15%
Quantity	100	100%

Based on Table 3.2, it shows that the majority of respondents are bachelor's degree graduates, with a percentage of 50%

Table 3.3. Duration of Investment

Year	Quantity	Percentage
< 2	20	20%
3	30	30%
4	20	20%
5	15	15%
>5	15	15%
Jumlah	100	100%

Based on Table 3.3, it shows that the majority of people in Semarang have only been investing in gold for three years, with a percentage of 30%.

Due to the large number of intervals, Sturges' formula (Sugiono, 2019) is used to determine the class interval for age:

Lowest Age: 20

Highest Age: 55

K = 1 + 3.3 log n

Explanation:

K = Number of class intervals

n = Number of data points

Number of class intervals = 1 + 3.3 log 100 = 7.6

Length of class interval = (55 – 20) / 7.6 = 35 / 7.6 = 4.7, rounded up to 5.

Table 3.4. Respondents by Age

Age	Quantity	Percentage
20 – 24	5	5%
25 - 29	10	10%
30 – 34	15	15%
35 – 39	25	25%
40 – 44	20	20%
45 – 49	15	15%
50 -55	10	10%

Table 3.2 shows that the age distribution of respondents is dominated by those aged between 35-44 years, accounting for 25%, and 20% of them own gold and invest in gold.

3.1 Feasibility Analysis of Instruments.

1. **Validity Test**

Confidence level of 95% (α = 5%), with degrees of freedom (df) = n - 2 = 100 – 2 = 98, where df = 98 and alpha = 0.05, the table value of r is 0.165. The validity results calculated using SPSS 22.0 are as follows:

Table 3.5. Validity Test of Research Variables

Variable	Question Item	Calculated r	Table r	Description
Overconfidence	**X1.1**	**0,737**	**0,165**	**VALID**
	X1.2	**0,902**	**0,165**	**VALID**
	X1.3	**0,718**	**0,165**	**VALID**
	X1.4	**0,902**	**0,165**	**VALID**
Herding	**X2.1**	**0,771**	**0,165**	**VALID**
	X2.2	**0,779**	**0,165**	**VALID**
	X2.3	**0,779**	**0,165**	**VALID**
	X2.4	**0,592**	**0,165**	**VALID**
Regret Aversion	**X3.1**	**0,615**	**0,165**	**VALID**
	X3.2	**0,658**	**0,165**	**VALID**
	X3.3	**0,609**	**0,165**	**VALID**
	X3.4	**0,680**	**0,165**	**VALID**
Risk Tolerance	**X4.1**	**0,609**	**0,165**	**VALID**
	X4.2	**0,607**	**0,165**	**VALID**
	X4.3	**0,609**	**0,165**	**VALID**
Investment Decision	**Y1.1**	**0,738**	**0,165**	**VALID**
	Y1.2	**0,773**	**0,165**	**VALID**
	Y1.3	**0,788**	**0,165**	**VALID**
	Y1.4	**0,738**	**0,165**	**VALID**

Primary data processed 2024

Based on the data analysis results in Table 3.5, it shows that all indicators used to measure the variables in this study have a correlation value of r count > r table. Thus, it can be concluded that all these indicators are valid.

2. Reliability Test

Table 3.6. Results of the Reliability Test for Research Variables

Variables	Cronbach Alpha	Cut Of Value	Description
Overconfidence	**0,835**	**0,60**	Reliable
Herding	**0,709**	**0,60**	Reliable
Regret Aversion	**0,768**	**0,60**	Reliable
Risk Tolerance	**0,816**	**0,60**	Reliable
Keputusan Investasi	**0,781**	**0,60**	Reliable

Primary data processed 2024

Based on the results of the above testing, it can be seen that all variables have a Cronbach's Alpha greater than or equal to 0.60. Therefore, the variables used as measurement tools in this study are considered suitable for use

3.2 Classical Assumptions Test

1. **Normality Test**

Table 3.7. Normality Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		100
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.31161759
Most Extreme Differences	Absolute	.141
	Positive	.093
	Negative	-.141
Kolmogorov-Smirnov Z		1.412
Asymp. Sig. (2-tailed)		.067

a. Test distribution is Normal.

b. Calculated from data.

The Kolmogorov-Smirnov test results show a significance value of 0.067, which is greater than 0.050. Therefore, it can be concluded that the data is normally distributed.

2. Multicollinearity Test

Table 3.8. Results of the Multicollinearity Test

Variables	Tolerance	VIF	Description
Overconfidence	**0,160**	**6,269**	Bebas Multikolinieritas
Herding	**0,208**	**4,803**	Bebas Multikolinieritas
Regret Aversion	**0,190**	**5,252**	Bebas Multikolinieritas
Risk Tolerance	**0,273**	**3,668**	Bebas Multikolinieritas

Primary data processed 2024

The test results indicate that all variables used as predictors in the regression model of this study have low VIF values, below 10, and tolerance values greater than 0.1. This means that all independent variables in this study show no signs of multicollinearity.

3. **Test for Heteroscedasticity**

Table 3.9. Results of Heteroscedasticity Testing

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.496	.555		2.694	.008

	OVERCONFIDENCE	.125	.073	.425	1.717	.089
	HERDING	-.127	.081	-.339	-1.564	.121
	REGRET AVERSION	.019	.065	.065	.287	.775
	RISK TOLERANCE	-.033	.049	-.127	-.669	.505

a. Dependent Variable: Abs_RES

The results of the heteroscedasticity test show that the significance value is greater than 0.05. Therefore, it can be concluded that the regression model does not exhibit heteroscedasticity.

3.3 Multiple Linear Regression Analysis

Table 3.10. Results of Multiple Linear Regression Testing

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.644	.971		7.870	.000		
	OVERCONFIDENCE	.270	.127	.237	2.123	.036	.160	6.269
	HERDING	.491	.142	.337	3.447	.001	.208	4.803
	REGRET AVERSION	.213	.114	.191	1.866	.065	.190	5.252
	RISK TOLERANCE	.205	.086	.204	2.383	.019	.273	3.668

a. Dependent Variable: KEPUTUSAN INVESTASI

Primary data processed 2024

The regression equation model based on the calculations can be written in standardized regression equation form as follows:

Y = 7.644 + 0,270 X1 + 0,491 X2 + 0,213 X3 + 0,205 X4 + 0,971

Keterangan :

Y : Investment Decision
β1 β 2 β 3 : Regression Coefficient
X1 : Overconfidence
X2 : Herding
X3 : Regret Aversion
X4 : Risk Tolerance
e : Error (interference coefficient)

The regression equation can be explained as follows:

1. The positive constant value is 7.644. This means that if Overconfidence, herding, regret aversion, and risk tolerance are all zero (0), the investment decision would be 7.644.
2. The coefficient for the overconfidence variable (X1) is positive with a value of 0.270. Thus, each one-unit increase in overconfidence will increase the investment decision by 0.270.
3. The coefficient for the herding variable (X2) is positive with a value of 0.491. Thus, each one-unit increase in herding will increase the investment decision by 0.491.
4. The coefficient for the regret aversion variable (X3) is positive with a value of 0.213. Thus, each one-unit increase in regret aversion will increase the investment decision by 0.213.
5. The coefficient for the risk tolerance variable (X4) is positive with a value of 0.205. Thus, each one-unit increase in risk tolerance will increase the investment decision by 0.205.

3.4 Model Goodness of Fit Test (F-Test and Coefficient of Determination)

1. Coefficient of Determination

Table 3.11 Results of the Determination Coefficient Test

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.900[a]	.811	.803	1.339

a. Predictors: (Constant), RISK TOLERANCE, REGRET AVERSION, HERDING, OVERCONFIDENCE

From the calculation results, it can be seen that the coefficient of determination obtained is 0.803. This means that 80.3% of gold investment decisions can be explained and influenced by the variables of overconfidence, herding, regret aversion, and risk tolerance. Meanwhile, the remaining 19.7% of gold investment decisions are influenced by other variables not examined in this study.

2. F-Test

Table 3.12. F-Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	729.046	4	182.262	101.664	.000[b]
	Residual	170.314	95	1.793		
	Total	899.360	99			

a. Dependent Variable: KEPUTUSAN INVESTASI

b. Predictors: (Constant), RISK TOLERANCE, REGRET AVERSION, HERDING, OVERCONFIDENCE

In Table 3.12, it can be seen that the SPSS data analysis results show an F-value of 101.664, which is greater than the F-table value of 2.46. Therefore, it can be concluded that, collectively, the independent variables have an effect on the dependent variable.

3. t-Test Hypothesis Testing.

The t-test is used to determine the partial effect of independent variables on the dependent variable. The results of the t-test can be seen in Table 3.13 below:

Table 3.13 Significance Value of the t-Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7.644	.971		7.870	.000		
	OVERCONFIDENCE	.270	.127	.237	2.123	.036	.160	6.269
	HERDING	.491	.142	.337	3.447	.001	.208	4.803
	REGRET AVERSION	.213	.114	.191	1.866	.065	.190	5.252
	RISK TOLERANCE	.205	.086	.204	2.383	.019	.273	3.668

a. Dependent Variable: KEPUTUSAN INVESTASI

Tabel T = n (sampel) – f (variable) -1 / 100 – 4 – 1 = 95 dengan tingkat kesalahan sebesar 0,05
Results of the t-test hypothesis calculations using SPSS version 16.0 are as follows:

1. Hypothesis test: Overconfidence affects investment decisions Based on the calculations above, the t-value for the overconfidence variable is (2.123) > t-table (1.661) with a significance level of 0.03 < 0.05. This means that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive and significant effect of overconfidence on investment decisions.
2. Hypothesis test: Herding affects investment decisions Based on the calculations above, the t-value for the herding variable is (3.447) > t-table (1.661) with a significance level

of 0.00 < 0.05. This means that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive and significant effect of herding on investment decisions.

3. Hypothesis test: Regret aversion affects investment decisions Based on the calculations above, the t-value for the regret aversion variable is (1.866) < t-table (1.661) with a significance level of 0.06 > 0.05. This means that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive but not significant effect of regret aversion on investment decisions.
4. Hypothesis test: Risk tolerance affects investment decisions Based on the calculations above, the t-value for the risk tolerance variable is (2.383) > t-table (1.661) with a significance level of 0.01 < 0.05. This means that the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive and significant effect of risk tolerance on investment decisions.

Discussion

1. The Effect of Overconfidence on Investment Decisions

Based on the calculations above, the t-value for the overconfidence variable is (2.123) < the t-table (1.661) with a significance level of 0.03 < 0.05. This indicates that the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted. It can be concluded that there is a positive and significant effect of overconfidence on investment decisions. Therefore, the hypothesis is accepted. This result can be attributed to the fact that the people of Semarang are largely aware of the importance of investing. Additionally, the people of Semarang also possess the knowledge and skills to choose the right investments. This finding supports previous research conducted by Addinpujoartanto & Darmawan (2020), which states that overconfidence has a positive effect on investment decisions. However, according to Rakhmatulloh & Asandimitra (2019), overconfidence does not have a significant effect on investment decisions. The research by Addinpujoartanto & Darmawan (2020) is supported by other studies, such as those by Salvatore & Esra (2020) and Aristiwati (2022), which also find that overconfidence has a significant effect on investment decisions.

2. The Effect of Herding on Investment Decisions

Based on the t-test calculations, the t-value for the herding variable is (3.447) > the t-table (1.661) with a significance level of 0.00 < 0.05. This means that the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive and significant effect of herding on investment decisions. This is because many people invest based on advice from others. Additionally, before making an investment, people usually ask for or seek opinions from those around them to ensure that the investment they make is the best or most profitable. This result supports previous research conducted by Damotik (2020), which states that herding has a positive effect on investment decisions. However, according to Ananda (2022), herding does not have a significant effect on investment decisions. The research by Damotik (2020) is supported by other studies, such as those by F. S. Sari (2021), Santoso (2022), and Oktaviani (2023), which support Safitri (2021) in finding that herding has a significant positive effect on investment decisions.

3. The Effect of Regret Aversion on Investment Decisions

Based on the t-test calculations above, the t-value for the regret aversion variable is (1.866) < the t-table (1.661) with a significance level of 0.06 < 0.05. This indicates that the null

hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive but not significant effect of regret aversion on investment decisions. This is because the people, especially in Semarang, invest in gold to avoid losses, leading them to prefer gold investments which are relatively stable and consistently profitable. This finding supports previous research conducted by Ananda (2022), which states that regret aversion has a positive effect on investment decisions. However, according to Faradiba (2022), regret aversion does not have an effect on investment decisions. The research by Ananda is supported by other studies, such as those by Oey (2021) and Putri et al. (2023), which find that regret aversion has a positive effect on investment decisions.

4.The Effect of Risk Tolerance on Investment Decisions

Based on the calculations above, the t-value for the risk tolerance variable is (2.383) > the t-table (1.661) with a significance level of 0.01 < 0.05. This indicates that the null hypothesis (Ho) is rejected, and the alternative hypothesis (Ha) is accepted. Therefore, it can be concluded that there is a positive and significant effect of risk tolerance on investment decisions. This is due to the stable and generally rising price of gold, which makes people confident that gold investment is a suitable and profitable choice. This also aligns with previous research conducted by Purnamasari (2018), which states that risk tolerance has a positive effect on investment decisions. However, according to Lestari & Wardani (2020), there is no effect of risk tolerance on investment decisions. Purnamasari's (2018) findings are supported by research by Lathifatunnisa (2021) and Faradiba (2022), indicating that risk tolerance has a positive effect on investment decisions.

4. CONCLUSION

Conclusion

Based on the discussion of the regression analysis results, the following conclusions can be drawn:

1. The variable overconfidence (X1) yielded a t-value of (2.123) > t-table (1.661) with a significance level of 0.03 < 0.05, indicating that overconfidence has a positive and significant effect on investment decisions.
2. The variable herding (X2) yielded a t-value of (3.447) > t-table (1.661) with a significance level of 0.00 < 0.05. This means that herding has a positive and significant effect on investment decisions.
3. The variable regret aversion (X3) yielded a t-value of (1.866) > t-table (1.661) with a significance level of 0.06 > 0.05. This indicates that regret aversion has a positive but not significant effect on investment decisions.
4. The variable risk tolerance (X4) yielded a t-value of (2.383) > t-table (1.661) with a significance level of 0.01 < 0.05. This means that risk tolerance has a positive and significant effect on investment decisions.
5. Among these four variables, herding (X2) stands out as the dominant factor in investment decisions, with the highest t-value (3.447) and a very low significance level (0.00). This finding suggests that herd behavior significantly influences investment decisions compared to the other variables in this study.

Recommendations

Based on the findings of this research, the following recommendations are provided to potentially improve gold investment among the people of Semarang:

1. Before making an investment, it is advisable to gather information about the opportunities and risks associated with the chosen investment.
2. To avoid significant investment risks, beginners or those looking to start should consider investing in gold.

3. Before starting an investment, it is better to seek advice from individuals with more experience in investment.
4. For a more secure investment, it is better to choose investments with lower risk.
5. Before making an investment, it is beneficial to enhance financial literacy to better understand investment risks and opportunities, leading to more informed decision-making.

Research Limitations

Due to limited time for this research, the study could not delve deeper into gold investment decisions.

Future Research

For future research, it is suggested to explore other variables that have not been examined, such as Financial Literacy and Illusion of Control, which may affect gold investment decisions.

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