

The Influence of Herding Behavior and Overconfidence Bias on Investment Decisions of Millennial Generation Cryptocurrency Investors in Malang City

Kalimasada¹, Yasin Nur Rohim^{2*}
Universitas Ma Chung

Corresponding Author: Yasin Nur Rohim yasinnurrohim@gmail.com

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ABSTRACT

This exploration aims to dissect the influence of herding behavior and overconfidence-bias on investment decisions by millennial generation Cryptocurrency investors in Malang City. This type of research is explanatory research with a quantitative approach. This research aims to test and explain the influence of the direct relationship between the variables herding behavior and overconfidence-bias on investment decisions by cryptocurrency investors through hypothesis testing. This research has a sample size of 99 Millennial Generation Cryptocurrency investors in Malang City which was obtained through distributing a Google Form questionnaire using a purposive sampling technique. This research uses the F-test with the SPSS 23 application. The results of this research show that the herding behavior variable has a significant effect on investment decisions. However, this is different, the overconfidence_bias variable does not have a significant effect on investment decisions by millennial generation Cryptocurrency investors in the city of Malang.

INTRODUCTION

The development of cryptocurrency instruments is becoming increasingly widespread in Indonesia. According to the Commodity Futures Trading Supervisory Agency (Bappebti), the total number of cryptocurrency investors in Indonesia as of March 2023 reached 17.4 million (Kontan, 2023). This number far beats stock investors, who only number 11.42 million in Indonesia (Data Indonesia, 2023). This shows that cryptocurrency is the investment instrument that is most popular with Indonesians today.

Cryptocurrency is a technology that is used as a digital currency to carry out virtual transactions via the internet (Rico, 2020). Cryptocurrency itself has begun to circulate among the public since the emergence of Bitcoin in 2009 (Money, 2022). The inventor of Bitcoin is Satoshi Nakamoto, whose identity is currently unknown (Cnet, 2022). Bitcoin has a maximum supply of only 21 million pieces, so investors believe it is digital gold. This causes Bitcoin adoption to become increasingly high in various countries (Investopedia, 2023).

Facing this increase in public interest, the Indonesian government responded by creating regulations governing cryptocurrency investment in Indonesia. The main regulations for cryptocurrency trading in Indonesia are regulated in Law Number 7 of 2011 concerning digital currencies (Bappebti, 2023). The Indonesian government has also officially delegated authority for cryptocurrency trading in Indonesia under the Financial Services Authority (OJK) (CNBC, 2023).

The significant development of cryptocurrency investors in Indonesia has led to the emergence of novice investors who are investing for the first time in the financial market. According to a report from the Finra-CFA Institute, cryptocurrency investment in Indonesia is dominated by Gen Z, 50% of whom invest because they are afraid of missing out (FOMO) (CNBC, 2023). Investing in risky assets such as cryptocurrency without clear fundamentals causes Gen Z investors who invest because of FOMO to experience investment losses. According to the Bank of International Settlement, 50% of retail cryptocurrency investors experienced investment losses (Coinvestasi, 2022). This shows that there is herding behavior among Gen Z cryptocurrency investors, so the investment decisions they make are less than optimal.

According to Gleason (2004) herding behavior is a behavior that imitates actions taken by other investors. Herding behavior occurs when uncertainty increases significantly in the market (Economou, 2018). Mahfuzur (2020) stated that in risky asset decision making, herding behavior has a tendency to have a significant negative influence on investment decisions. Research conducted by Harjum (2021) also shows that herding behavior has a significant negative influence on investors' investment decisions in Southeast Asia. Based on these two studies, it can be concluded that herding behavior has a significant negative influence on the investment decisions of risk asset investors.

Another factor that influences investment decisions is overconfidence bias. Overconfidence bias. Ricciardi and Simon (2000) stated that overconfidence can be a person's assessment of their abilities too high. According to Trevelyan (2008), overconfidence bias is a form of excessive self-

efficacy. Entrepreneurs or investors are very susceptible to overconfidence bias (Koellinger, Minniti, & Schade, 2007). Shagufta (2016) stated that the results of research conducted on investors in Pakistan showed that overconfidence can have a significant negative influence on investment decisions. Other research conducted by Maqsood (2020) on investors in Pakistan also revealed that there is a significant negative influence of overconfidence bias on investment decisions.

Based on this background, research was conducted on the theme The Influence of Herding Behavior and Overconfidence Bias on Cryptocurrency Investment Decisions of Millennial Investors in Malang City. The Millennial generation was chosen because according to Katadata (2021), 40% of cryptocurrency investors in Indonesia are in the 25-34 year age range, so they fit the age profile of the Millennial generation. Meanwhile, Malang City was chosen because it is one of the largest cities in Indonesia and the second largest in East Java. On the other hand, Malang City is also a city with many universities and students who have close access to cryptocurrency asset investment.

THEORETICAL REVIEW

Herding Behavior

Herding behavior, also known as imitative behavior, is a person's tendency to imitate the behavior of others (Gleason, 2007). Herding or copying activities can basically be observed when groups of investors carry out the same trading transactions within a certain time (Indars and Savin, 2017). Herding behavior often occurs when retail investors imitate the behavior of professional investors (Chang et al., 2000). According to Puhorit (2014), the indicators of herding behavior are as follows:

- a. Under Confidence: Explains the situation where investors make investment decisions without using their own abilities.
- b. Lack of Awareness: Explains the situation where investors do not have a specific strategy when investing in the cryptocurrency market.
- c. Bandwagon Effect: Explains the situation where investors follow other people's decisions without a clear basis.
- d. Social Proof: Explains investors' ignorance in acting in ambiguous situations.

Overconfidence Bias

Overconfidence can result from a person's assessment of their abilities being too high (Ricciardi and Simon, 2000). Overconfidence can occur when someone tends to overestimate their abilities compared to their actual abilities (Nofsinger and Hirschey, 2001).

According to a study conducted by Barber and Odean (2001), men have a high tendency to experience overconfidence bias (2001). Various studies related to overconfidence bias and its influence on investment decisions have been carried out. Bloomfield (1994) revealed that overconfidence bias tends to cause prediction errors and losses. This is in line with research conducted by

Kufepaksi (2007), which suggests that overconfidence can be self-deceptive behavior that ultimately causes losses. According to Moore (2017), indicators of overconfidence bias are as follows:

- a. Overestimation: Explains investors' assumption that their knowledge is above their actual knowledge. Overconfidence easily makes someone tend to experience overestimation.
- b. Overplacement: Explains how investors think that they have better abilities and knowledge than other people. This causes investors not to care about anything other than their own opinions and knowledge.
- c. Overprecision: Explains the situation where investors think that they are able to predict the future and know the reality of what will happen before it happens.

Herding behavior is the tendency of investors to follow the decisions of other investors (Shiller, 2000). This causes herding behavior to tend to result in losses for investors (Zaoranis, 2014). Research conducted by Anum (2017), shows the results that herding behavior has a significant negative influence on investment decisions. Other research conducted by Sarwar (2022) also shows the results that there is a significant negative influence between herding behavior on investment decisions regarding risky assets. Based on this description, the hypothesis put forward is as follows:

H1: Herding behavior influences investment decisions.

Investment Decision

An investment decision is a process for allocating assets according to investment objectives to obtain future returns (Mahfuzur, 2020). The aim of making an investment decision is to obtain the best decision in making an investment. When investors carry out investment activities, the things that influence the investment decisions they make are risk and rate of return (Arora and Kumari, 2015). Although investors try to avoid bias and make rational decisions, overreaction causes inefficient decision-making (Chen, 2007). The indicators of investment decisions, according to Rasheed (2018), are as follows:

- a. Satisfaction with Investment: explains the sense of satisfaction and pleasure that investors have with the assets invested.
- b. Use of Intuition: Explains the use of instinct or intuition in investing.
- c. Doing what it Feels Right: Explains the feelings investors have to invest in what they feel is right.

Overconfidence bias is a behavioral bias where investors tend to feel too confident in risky situations so they don't care about the risks they may face (Maqsood, 2020). The purpose of observing overconfidence bias is to determine the assessment of performance (Baranski & Petrusic, 1995). This is due to the tendency of investors to carry out risky transactions (Malik, 2017). Research conducted by Maqsood (2020) on risk asset investors shows that overconfidence can have a significant negative influence on investment decisions. Other research conducted by Noura (2018) also shows that there is a significant

negative influence between overconfidence bias on investment decisions among investors. Based on this description, the hypothesis put forward is as follows:

H2: Overconfidence can influence investment decisions.

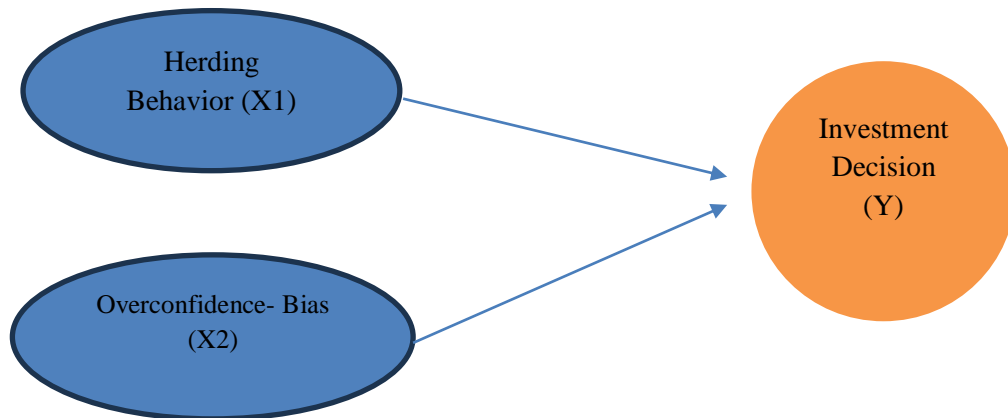


Figure 1. Conceptual Framework

METHODOLOGY

Types of research

This research is explanatory research or research conducted in order to test, explain and confirm a theory in science (Creswell, 2014). This research aims to test and explain the influence of the direct relationship between the variables herding behavior, overconfidence bias, and investment decisions on Millennial Generation cryptocurrency investors in Malang City.

Population and Sample

1. Population

The population in this study has an infinite population or a population that is impossible to calculate as a whole (Sugiyono, 2019). This is because the nature of cryptocurrency investors is borderless or does not recognize territorial boundaries. Anyone without exception can have access to the blockchain network and create a cryptocurrency wallet. So because the population of cryptocurrency investors is borderless and infinite, the research population chosen is cryptocurrency investors in Malang City. The age of the population in this study is investors who are in the millennial generation age range or investors who are in the age range of 24 – 39 years).

2. Sample

The sampling technique used in this research is a non-probability sampling technique, which is a sampling method where certain considerations are applied in selecting samples to obtain the desired characteristics (Sugiyono, 2019). The considerations used as sample criteria are as follows:

- More than 17 years old: This is because the legal age for investing in cryptocurrency in Indonesia is 17 years.

- Invest within a minimum period of 6 months: This is to ensure that the investors who are respondents understand what is asked in the questionnaire.

In determining the sample size, the Roscoe (1975) criteria in Sekaran (2015) were used which put forward the following sampling guidelines:

- Sample size is between 30 samples to 500 samples.
- The sample size should be 10 times larger than the number of variables analyzed.

Based on the criteria above, the number of samples taken was 99 samples. This number is considered ideal because it is in accordance with the criteria above where the ideal sample size is between 100 samples - 500 samples and this number is in accordance with the second condition which states that the minimum sample size is 10 times the number of variables analyzed (30 samples).

3. *Data Types and Sources*

The types of data used in this research are primary data and secondary data. Primary data in this research was collected online via Google form from cryptocurrency investors in Malang City. The types of secondary data in this research were collected through various journals, publications and theories that support data analysis in this research.

4. *Data analysis method*

a. *Validity and Reliability Test*

The validity test was carried out in this research to find out whether the measuring instrument used measured what was measured, while the reliability test was carried out to determine the consistency of the research instrument (Sugiyono, 2019). The validity of the research instrument is based on criterion validity and tested using Pearson product moment correlation. The research instrument is declared valid if it has a correlation coefficient with the total indicator greater than or equal to 0.60 ($r \geq 0.60$). The reliability of the instrument in this study is based on internal consistency reliability and tested with Cronbach's Alpha coefficient. An instrument can be said to be reliable if it has a Cronbach Alpha coefficient greater than or equal to 0.70 ($r \geq 0.70$).

b. *Classic Assumption Test*

The classical assumption test is a test carried out to provide certainty of regression equality. In the classical assumption test, there are three tests carried out, namely the normality test, linearity test, and heteroscedasticity test (Ghozali, 2016).

- Normality test: The normality test aims to check whether the research data carried out is normally or not normally distributed. The normality test is part of the requirements for classical data analysis or hypothesis testing, meaning that before carrying out the actual analysis, the research data must be examined first to determine its normal distribution. Good data is data

that has a normal distribution. For the normality test, this research uses the Kolmogorov-Smirnov test technique with the guideline that if the significance value is > 0.05 then the data is normally distributed.

- Linearity test: The linearity test aims to find out whether two variables have a significant or insignificant linear relationship. Good data is required to have a linear relationship between the predictor variable (X) and the criterion variable (Y). Decision making in linearity testing is that if the significance value is > 0.05 then it can be concluded that there is a significant linear relationship between the predictor variable (X) and the criterion variable (Y).
- Heteroscedasticity test: The heteroscedasticity test aims to check whether in the regression model there is an inequality of residual variance from one observation to another observation. If the variance of a residual or an observation relative to the residuals of other observations is constant then we call it varying Homoscedasticity, and if the variance varies then we call it heteroscedasticity. A good regression model does not have to have heteroscedasticity.

Hypothesis Test

Hypothesis testing aims to find out whether a hypothesis that has been proposed is rejected or accepted. A hypothesis is an assumption or statement that may be true or false regarding a population. By observing the entire population, we can find out whether a hypothesis is true or false.

For practical purposes, random sampling from the population will be helpful. In hypothesis testing there is an assumption/statement of the term H_0 . H_0 is the hypothesis to be tested, stated by H_0 and rejection of H_0 is interpreted as acceptance of another hypothesis/alternative hypothesis stated by H_1 .

If the Coefficient of Determination (r^2) has been determined, then a significant test of the proposed hypothesis is then carried out. This test can use the t-test; F-test; Z-test or Chi Square Test. With this significance test, it can be seen whether the independent/predictor/independent variable (X) has a significant effect on the dependent/response/dependent variable (Y). The meaning of significant is that the influence between variables applies to the entire population. In this model we will discuss the significance test using the F-Test.

RESULTS

Validitas and Reliabilitas Test

Table 1. Herding Behavior (X1)

		Correlations										
		X1.1.1	X1.1.2	X1.2.1	X1.2.2	X1.2.3	X1.3.1	X1.3.2	X1.4.1	X1.4.2	X1.4.3	Total
X1.1.1	Pearson Correlation	1	.530**	.440**	.471**	.327**	.398**	.253**	.228**	.323**	.131	.604**
	Sig. (2-tailed)		.000	.000	.000	.001	.000	.012	.023	.001	.197	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.1.2	Pearson Correlation	.530**	1	.568**	.455**	.477**	.433**	.272**	.294**	.260**	.166	.671**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.007	.003	.009	.100	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.2.1	Pearson Correlation	.440**	.568**	1	.620**	.476**	.506**	.407**	.488**	.342**	.013	.733**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.001	.900	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.2.2	Pearson Correlation	.471**	.455**	.620**	1	.389**	.487**	.468**	.537**	.332**	.110	.731**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.001	.280	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.2.3	Pearson Correlation	.327**	.477**	.476**	.389**	1	.565**	.451**	.488**	.346**	.061	.727**
	Sig. (2-tailed)	.001	.000	.000	.000		.000	.000	.000	.000	.547	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.3.1	Pearson Correlation	.398**	.433**	.506**	.487**	.565**	1	.509**	.496**	.307**	-.016	.724**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.002	.873	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.3.2	Pearson Correlation	.253**	.272**	.407**	.468**	.451**	.509**	1	.768**	.431**	-.076	.709**
	Sig. (2-tailed)	.012	.007	.000	.000	.000	.000		.000	.000	.453	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.4.1	Pearson Correlation	.228**	.294**	.488**	.537**	.488**	.496**	.768**	1	.500**	-.093	.744**
	Sig. (2-tailed)	.023	.003	.000	.000	.000	.000	.000		.000	.362	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.4.2	Pearson Correlation	.323**	.260**	.342**	.332**	.346**	.307**	.431**	.500**	1	-.038	.600**
	Sig. (2-tailed)	.001	.009	.001	.001	.000	.002	.000	.000		.710	.000
	N	99	99	99	99	99	99	99	99	99	99	99
X1.4.3	Pearson Correlation	.131	.166	.013	.110	.061	-.016	-.076	-.093	-.038	1	.210
	Sig. (2-tailed)	.197	.100	.900	.280	.547	.873	.453	.362	.710		.037
	N	99	99	99	99	99	99	99	99	99	99	99
Total	Pearson Correlation	.604**	.671**	.733**	.731**	.727**	.724**	.709**	.744**	.600**	.210	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.037	
	N	99	99	99	99	99	99	99	99	99	99	99

** Correlation is significant at the 0.01 level (2-tailed).
 * Correlation is significant at the 0.05 level (2-tailed).

In Table 1, it can be seen that all statement items produce Sig. count < Sig. alpha (0.05) so it can be concluded that all the indicators obtained in the Herding Behavior variable are valid.

Table 2. Overconfidence- Bias (X2)

		Correlations						
		X2.1.1	X2.1.2	X2.2.1	X2.2.2	X2.3.1	X2.3.2	Total
X2.1.1	Pearson Correlation	1	.787**	.724**	.601**	.641**	.583**	.863**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000
	N	99	99	99	99	99	99	99
X2.1.2	Pearson Correlation	.787**	1	.650**	.664**	.607**	.494**	.834**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000
	N	99	99	99	99	99	99	99
X2.2.1	Pearson Correlation	.724**	.650**	1	.587**	.605**	.471**	.812**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	99	99	99	99	99	99	99
X2.2.2	Pearson Correlation	.601**	.664**	.587**	1	.796**	.637**	.862**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	99	99	99	99	99	99	99
X2.3.1	Pearson Correlation	.641**	.607**	.605**	.796**	1	.634**	.859**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000
	N	99	99	99	99	99	99	99
X2.3.2	Pearson Correlation	.583**	.494**	.471**	.637**	.634**	1	.765**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	99	99	99	99	99	99	99
Total	Pearson Correlation	.863**	.834**	.812**	.862**	.859**	.765**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	99	99	99	99	99	99	99

** Correlation is significant at the 0.01 level (2-tailed).

In Table 2, it can be seen that all statement items produce Sig. count < Sig. alpha (0.05) so it can be concluded that all indicators obtained in the Overconfidence-Bias (X2) variable are valid.

Table 3. Investment Decision (Y)

		Correlations						
		Y.1.1	Y.1.2	Y.2.1	Y.2.2	Y.3.1	Y.3.2	Total
Y.1.1	Pearson Correlation	1	.150	.305**	.521**	.339**	.424**	.687**
	Sig. (2-tailed)		.138	.002	.000	.001	.000	.000
	N	99	99	99	99	99	99	99
Y.1.2	Pearson Correlation	.150	1	.474**	.436**	.508**	.543**	.633**
	Sig. (2-tailed)	.138		.000	.000	.000	.000	.000
	N	99	99	99	99	99	99	99
Y.2.1	Pearson Correlation	.305**	.474**	1	.487**	.500**	.540**	.700**
	Sig. (2-tailed)	.002	.000		.000	.000	.000	.000
	N	99	99	99	99	99	99	99
Y.2.2	Pearson Correlation	.521**	.436**	.487**	1	.746**	.676**	.853**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000
	N	99	99	99	99	99	99	99
Y.3.1	Pearson Correlation	.339**	.508**	.500**	.746**	1	.728**	.815**
	Sig. (2-tailed)	.001	.000	.000	.000		.000	.000
	N	99	99	99	99	99	99	99
Y.3.2	Pearson Correlation	.424**	.543**	.540**	.676**	.728**	1	.837**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	99	99	99	99	99	99	99
Total	Pearson Correlation	.687**	.633**	.700**	.853**	.815**	.837**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	
	N	99	99	99	99	99	99	99

** Correlation is significant at the 0.01 level (2-tailed).

In Table 3, it can be seen that all statement items produce Sig. count < Sig. alpha (0.05) so it can be concluded that all indicators obtained in the Investment Decision (Y) variable are valid.

Tabel 4. Reability test

No	Variabel	Nilai Cronbach's Alpha Hitung	Nilai Cronbach's Alpha table	Keterangan
1.	Herding Behavior (X1)	.834	>0.70	Reliabel
2.	Overconfidence_Bias (X2)	.910	>0.70	Reliabel
3.	Investment Decision (Y)	.825	>0.70	Reliabel

Table 4. explains that all research instrument variables have Cronbach's Alpha > 0.70, so the variables can be declared reliable. So this research instrument is suitable for use for research.

Classic assumption test

Tabel 5. Kolmogrov-Smirnov (K-S) test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.085	99	.078	.973	99	.036

a. Lilliefors Significance Correction

Table 5 shows the Kolmogorov-Smirnov Z Sig value of 0.078 > 0.05. This means that all variables in this study are normally distributed.

Tabel 6. linearity test

ANOVA table			Sum of Squares	df	Mean Square	F	Sig.
Investment_Decision_Y* Overconfidence_Bias_X2	Between Groups	(Combined)	289.613	13	22.278	3.591	.000
		Linearity	195.411	1	195.411	31.495	.000
		Deviation from Linearity	94.202	12	7.850	1.265	.254
	Within Groups		527.377	85	6.204		
	Total		816.990	98			

Table 6. shows the linearity test value deviation from linearity of 0.254 > 0.05. This means that there is a significant linear relationship between the variables.

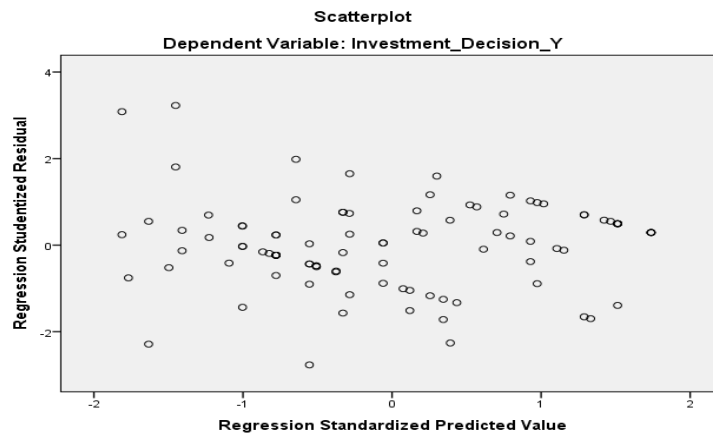


Figure 2. Heteroscedasticity test

From Figure 2, it can be seen that the points are distributed randomly and are also distributed either above or below the number 0 on the Y axis. Therefore, it can be concluded that heteroscedasticity does not occur in the regression model of this research.

Determination Coefficient Test (R2)

The coefficient of determination is a step used to calculate the contribution of the independent variable to the dependent variable, as well as the results obtained from SPSS processing results.

Tabel 7. Determination Coefficient Test

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.673 ^a	.452	.441	2.159

a. Predictors: (Constant), Overconfidence_Bias_X2, Herding_Behavior_X1

b. Dependent Variable: Investment_Decision_Y

The table shows the contribution of the variables Herding Behavior (X1) and Overconfidence-Bias (X2) to Investment Decision (Y) by looking at the

results of Adjusted R Square or (Adjusted R²) = 0.452. This means that Herding Behavior and Overconfidence-Bias explain changes in the Investment Decision variable. amounting to 45.2%, while the remaining 54.8% was explained by other factors outside this research model.

Multiple Linear Test

Tabel 8. Multiple Linear Test

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	369.626	2	184.813	39.659	.000 ^b
	Residual	447.364	96	4.660		
	Total	816.990	98			

a. Dependent Variable: Investment_Decision_Y

b. Predictors: (Constant), Overconfidence_Bias_X2, Herding_Behavior_X1

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.951	2.377		2.083	.040
	Herding_Behavior_X1	.436	.071	.603	6.114	.000
	Overconfidence_Bias_X2	.088	.086	.101	1.019	.311

a. Dependent Variable: Investment_Decision_Y

Based on Table 8, ANOVA shows a significance value in the F test of 0.000. If the result is sig 0.000 < 0.05, it can be concluded as a basis for decision making in the F test that variable X1 and variable X2 simultaneously influence variable Y or are significant. so that the conditions for being able to interpret the coefficient of determination value in multiple linear regression analysis can be fulfilled. Apart from that, the magnitude of the results of the multiple linear regression test on the influence of herding behavior (X1) and overconfidence bias (X2) was obtained at an F number of 39.659 with a significance value of 0.000. <0.05 which means that together the herding behavior variable (X1) and overconfidence-bias (X2) has a significant influence on investment decisions (Y).

DISCUSSION

The Effect of Herding Behavior on Investment Decisions

Based on processed results using SPSS 23 for Windows. The research results show that the herding variable has a positive coefficient value of 0.436, which means more than 0.05 and a significant value of 0.000, this value is smaller than 0.05 or sig < α and the t-value The calculated value of 6.114 is obtained, then H1 is accepted and there is a significant influence between Herding Behavior on Investment Decisions in the millennial generation in Malang City. The results of this research show that herding behavior has a positive and significant effect on

the investment decisions of the millennial generation in Malang City. The influence of Herding Behavior on Investment Decisions shows that a person's investment decisions have followed a group that has conducted research to become the basis for the actions of those who have conducted market research. The results of testing the first hypothesis are in line with the opinion of Anum (2017) who believes that listening behavior is an action activity following a group and is often carried out in making decisions.

The Effect of Overconfidence-Bias on Investment Decision

The overconfidence-bias variable has a positive coefficient value of 0.088 and a significance above 0.05, namely 0.000. And it has a t value of 1.019 which means it is smaller than the t table, namely 1.6604. This states that the overconfidence-bias variable has a positive and insignificant effect on investment decisions. H2 is rejected. The results of this research show that millennial generation crypto investors in Malang City are not influenced by a high level of self-confidence or overconfidence in carrying out crypto investment activities. When investors do not have a high level of self-confidence, they will not make a decision to invest in crypto, they will even think about the risks that might arise and feel that the investment they are making will be detrimental in the future.

CONCLUSIONS AND RECOMMENDATIONS

Based on the data obtained and the results of the analysis carried out, conclusions can be drawn regarding the influence of herding and overconfidence-bias on investment decisions among millennial generation crypto investors in Malang City as follows:

1. Herding does not have a significant effect on crypto investment decisions in Malang City. This is because respondents in this study do not tend to rely on the information they obtain through internet technology which they have mastered as a basis for making investment decisions.
2. Overconfidence-bias has a significant positive effect on crypto investment decisions. This is because the respondents in this study have high self-confidence, so they are brave and believe in their ability to invest in crypto.

It is hoped that the results of this research can help investors to be wiser in responding to herding behavior and overconfidence_bias, especially in investing in non-real sectors such as crypto. This research also still has limitations in terms of independent variables, so it is hoped that in future research we can carry out research again regarding investment decisions, by providing a more accurate model regarding the factors that influence investment decisions.

FURTHER STUDY

Furthermore, in this study respondents were asked to choose one of five alternatives which were ranked 1 to 5 on the Likers scale. Basically, research produces indicators so good measuring tools are needed. Measuring tools in research are often called research instruments. According to Sugiyono (2012:119) "research instruments are tools used to measure observed natural and social phenomena". Instrumental testing techniques are used to determine

whether the data is valid and reliable. Then, to measure its validity and reliability, it must first be tested.

So, for further research it is necessary to add new variables to research in the same field such as Financial Literacy, Risk Tolerance and other variables. Apart from that, it is also necessary to use different analytical techniques so that the range of research in the investment field is more varied.

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