

DECISION GENERATION Z INVESTMENT FROM A FINANCE BEHAVIOR POINT OF VIEW

Dian Kusumaningtyas^{1*}, Lilis Ardini²

¹ Student of Doctoral Science Management, Indonesia School Of Economics (STIESIA) Surabaya

² Indonesia School Of Economics (STIESIA) Surabaya

*Corresponding Author: diankusuma@unpkediri.ac.id

Abstract: This research aims to analyze the influence of behavioral finance on stock investment decisions in Generation Z with interest as an intervening variable. Behavioral finance is an endless theme for us to uncover, the behavior of investors provides its own attraction with several variables that may influence decision-making in investing in shares. This research uses the method Quantitative. The population in the research were students in Kediri City as Generation Z. The sampling method is Accidental Sampling. The total sample is 147 respondents. The data analysis technique in this research uses PLS Analysis because the variables used are latent variables so projections are needed to measure them and indicators are needed in the variables. Based on the results of the analysis, the overconfidence variable does not affect interest, this overconfidence variable also does not affect investment decisions directly or indirectly, namely through interest as an intervening variable. Furthermore, the fear of regret variable influences interest, it also influences investment decisions directly and indirectly, namely through interest as an intervening variable. The next variable is Herding, herding influences interest, but this variable does not influence investment decisions directly or indirectly.

Keywords: Investment Decisions, Behavior Finance

1. Introduction

Let's Save Stocks (YNS) is a campaign tagline organized by the Indonesian Stock Exchange (BEI) which aims to invite the general public as potential investors to be willing to invest in the capital market by buying shares regularly and periodically. This campaign was first launched on November 12 2015 by the Vice President of the Republic of Indonesia, Mr. Muhammad Jusuf Kalla, in the Main Hall of the Indonesia Stock Exchange Building. The aim of this campaign is to invite people to invest, change the culture of saving in society into a culture of investing, apart from that, with investment it is hoped that people's welfare will improve and be stable in the future. Since its launch in 2015, data on investors making investments has increased, in East Java currently investment development. Achievement as of December 2022: 10,311,152 SID. Total addition of 2,821,815 new SIDs or an increase of 37.68%. This includes Share SIDs of 4,439,933 SIDs with a total addition of 988,420 new SIDs or an increase of 28.64% (IDX, 2022).

PENCAPAIAN TAHUN 2022 – SID Pasar Modal

Periode Januari - Desember 2022



Figure 1. Development of SID in East Java
(Source. IDX, 2022)

The development of Single Investor Identification (SID) in East Java as of December 2022 has increased by 29.1% and overall the East Java SID is ranked No. 3 in Indonesia. If we look at Figure 2, the development of SID based on age, investors aged 11-26 years dominate, this is Generation Z or what we usually call Gen Z. Gen Z is for those born from 1997 to 2012.

Data SID di Jawa Timur Berdasarkan Usia

Periode Desember 2022



Figure 2. SID by Age
(Source, IDX, 2022)

Generation Z, which is currently a maximum of 23 years old, can make investment decisions. We know that many factors influence decision-making, including Rational attitudes, namely Investors' thinking attitudes based on the data and facts they obtain (Ariani et al, 2016) and Irrational attitudes which are influenced by psychological factors (Budiarto & Susanti, 2017). Financial behavior and investment decisions are an interrelated unit. The important role of financial behavior in decision-making is very important because there are psychological factors. This psychological factor is the basis for investors' considerations in maximizing their investment profits (Prawirasasra & Dialysa, 2015). Behavior Finance is a study that studies the existence of psychological phenomena that are capable of financial behavior. The Behavior Finance concept provides the conclusion that some investors consider non-economic aspects more, especially psychological aspects, which can influence investors who often take actions based on judgment and developments based on theories put forward in the capital market regarding the assumption of rationality. (Shefrin, 2000). There are sixteen psychological factors researched by Rr. Iramani and Dhyka Bagus

(2008) namely Overconfidence, Data Mining, Status Quo, Social Interaction, Emotion, Representatives, Familiarity, Pride and Regret, Considering the Past, Fear and Greed, Self Control, Loss Aversion, Mental Accounting, Herd-like Behavior and Vividness Bias which can shape investor behavior in carrying out stock transactions.

According to Lord et al., (1979), Overconfidence is the perception held by individuals/organizations who feel they already have sufficient knowledge and experience about something. According to Ahmed et al., (2021) Nguyen et al., (2020) Jain et al., (2019) Qasim et al., (2019) Gill et al., (2018) Budiarto (2017) Kahn et al., (2017) stated that overconfidence has a positive influence on stock investment decision making. Because investors who psychologically feel overconfidence are influenced in making investment decisions. However, research conducted by Rahman & Gan, (2020) Shah et al., (2018) Hameed et al., (2018) stated that the overconfidence variable has a negative influence on stock investment decision-making.

The reality is that many investors are not rational in making investment decisions. Investors' decisions tend to be influenced by their psychological characteristics and one of the psychological symptoms that often affects investors in the capital market is fear of regret, which causes them to hesitate and act irrationally. This is what many investors then consider and increasingly leads them to deviate from the principle of rationality.

Another factor that influences investment decisions is herding which is identified as the behavioral tendency of investors to follow other investors (Ghalandari & Ghahremanpour, 2013). This is supported by Manuel & Mathew, 2017; Ramdani, 2017) where herding behavior has a positive influence on investment decisions. This is different from research results (Alquraan et al., 2016; Bakar & Ng, 2016; Setiawan, Atahau, & Robiyanto, 2018) where herding behavior does not influence investment decisions.

Not all investors registered with KSEI can analyze or read the information contained in the company's financial reports. Therefore, they will look for information by looking at the latest news, as well as asking for advice from friends, influencers, colleagues, etc., and will feel safer if they consider decisions made by other investors Jain et al., (2019). According to Rahayu, Rohman, and Harto (2021) Christopher, (2020) Adielyani & Mawardi, (2020), Qasim et al., (2019) Herding has a significant positive influence on investment decision-making. However, several studies reveal different analysis results that the negative influence of herding on stock decision-making was also stated by Adil et al.,

Based on the phenomenon of Generation Z dominating the stock investment market, psychologically they still have unstable emotions, and based on the existence of GAP in previous research, researchers are interested in exploring the influence of behavior finance (Overconfidence, Fear of Regret, Herding) on stock investment decisions in generation Z with interest as an intervening variable.

2. Literature Review

Investation decision

Investment is an activity to invest part or all of one's capital in a certain field. Investors can invest their capital in the capital market, money market, bonds or other fields Budiarto (2017). Investment decision making behavior is an action where investors in making investments will be influenced by rational and irrational factors.

Interest

Interest has a huge influence on the activities carried out. Factors that support the development of interest are internal and external. Interest is a psychological function or conscious response to being interested in an object, whether in the form of a thing or

something else, while investment is defined as a commitment to a certain amount of funds or other resources made now, to obtain profits in the future (Tandelilin, 2010)

Behavior Finance

Behavioral finance theory is an explanation of financial markets using cognitive psychology models and private limits. This model is broader than the expected utility theory and Ritter's (2003) arbitrariness assumption. Behavioral finance is a science that explains how cognitive and emotional factors can influence financial decision-making. Behavioral finance explains and increases understanding of investors' reasoning patterns, as well as the emotional patterns involved and the extent to which they influence investment decision-making (Ricciardi and Simon, 2000). Bodie, Kane, and Marcus (2016) explain that behavioral finance is a financial market model that emphasizes the potential implications of psychological factors that influence investor behavior. This irrationality is divided into two categories. First, investors do not always process information correctly and therefore infer incorrect probability distributions about future rates of return. Second, even given a probability distribution of returns, investors often make decisions that are neither consistently nor systematically optimal.

Overconfidence

Overconfidence or what can be interpreted as excessive self-confidence is when someone has expectations that are not in accordance with the reality of something (Scheinkman & Xiong 2003). Overconfidence can be caused by the illusion of knowledge. Where individuals or organizations feel they already have a lot of knowledge and experience about something themselves (Lord et al., 1979).

Fear of Regret

Statman (1995) in Asri (2013) conducted research that focused on a psychological symptom called fear of regret, which ultimately causes investors to hesitate and act irrationally. A person tends to be more careful (as a reflection of the amount of fear of regret) if the decision they make will have an impact on their family. On the other hand, he tends to be braver in making decisions that will only have consequences for himself. This theory states that individuals evaluate their expected reactions to an event or situation in the future. For example, if an investor has experienced a loss on his investment in stock "X", then the person concerned will make improvements to the analysis so that in the future the same thing does not happen. This theory is known as the theory of regret (Hidayati, 2018)

Herding

Herding is an assumption that investors' actions following other investors' decisions can provide profitable and reliable information. Millennial investors consider herding in making investment decisions (Adielyani & Mawardi, 2020). This is in line with Rahayu et al., (2021) who stated that investors in Indonesia are positively influenced by herding when making investment decisions. Because investors in Indonesia tend to ignore their own abilities and rely more on the investment decisions of other people who are considered experts in investing

3. Method

a. Research Approaches and Techniques

The approach in this research is a quantitative approach. According to Sugiyono (2017:12), research with a quantitative approach emphasizes analysis in numerical data (numbers) which are processed using statistical methods. The research technique used in this

research is descriptive. According to Sugiyono (2017:59), Descriptive method is research that depicts, depicts, or explains the condition of the object under study as it is, according to the situation and conditions when the research was carried out.

b. Population, Sample and Data Collection Techniques

The data collection method in this research is by compiling a questionnaire which is distributed using Google Form and *questionnaire*, which was then distributed to all students in Kediri City. Sampling was carried out in this research using accidental sampling, namely accidental sampling, namely sampling based on chance. This means it could be anyone who happens to meet the researcher (Sugiyono, 2017:62). In determining the sample size used, Sugiyono, (2017:91) suggests the sample size for research as follows:

- 1) A feasible sample size in research is between 30 and 500.
- 2) If the sample is divided into categories, the minimum number of sample members for each category is 30.
- 3) If the research will carry out a multivariate analysis (correlation or multiple regression for example), then the number of sample members must be at least 10 times the number of variables studied. For example, there are 5 research variables (independent + dependent), then the number of sample members = $10 \times 5 = 50$.

Because the population is unknown, the sampling number calculation is $10 \times \text{variables}$: 10×5 so there is minimal sampling 50 respondents.

From distributing the questionnaire, 167 respondents filled out the questionnaire or Google form.

c. Data Analysis Techniques

The data analysis technique in this research uses PLS Analysis because the variables used are latent variables so projections are needed to measure them so indicators are needed. Partial least squares (PLS) is a powerful analysis method and is often referred to as soft modeling because it eliminates the assumptions of the Ordinary Least Squares (OLS) technique, such as the distribution of residuals does not have to be a multivariate normal distribution. In addition, in PLS the sample does not have to be large, nominal, interval and ordinal measurement scales can be used in the same model (Ghozali and Latan, 2012).

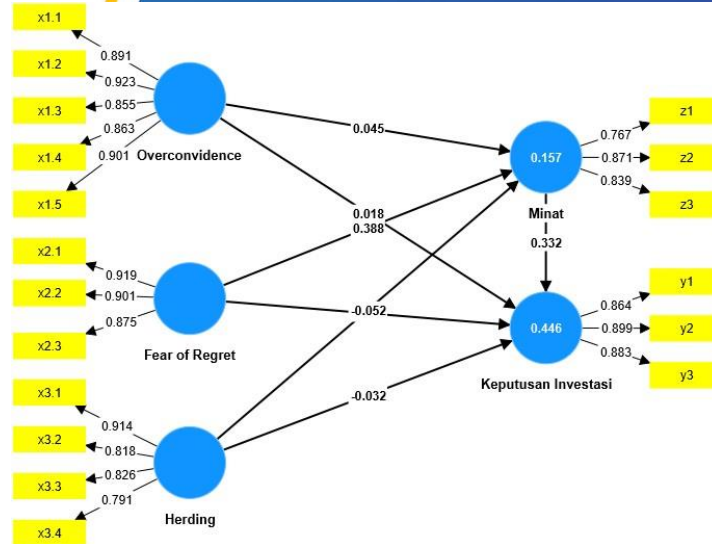
4. Results and Discussion

Partial Least Square Analysis

The purpose of this research is to analyze what is the influence of behavioral finance (Overconfidence, Fear of Regret, Herding) on stock investment decisions in generation Z with interest as an intervening variable. The PLS results will be explained in detail as follows:

1. Evaluation of Outer Model (Measurement Model)

The following is an image of the measurement model developed in this research:



Picture4. Behavior finance analysis measurement model (Overconfidence, Fear of Regret, Herding) on stock investment decisions in generation Z with interest as an intervening variable

a. Convergent Validity(Convergent Validity)

The first evaluation of the outer model is convergent validity. To measure convergent validity, the outer loading value can be used. An indicator is said to meet convergent validity if it has an outer loading value > 0.7.

The following are the outer loading values for each indicator on the research variables:

Table 1. Value ResultsOuter Loading

	Fear of Regret	Herding	Investation decision	Interest	Over-confidence
x1.1					0.891
x1.2					0.923
x1.3					0.855
x1.4					0.863
x1.5					0.901
x2.1	0.919				
x2.2	0.901				
x2.3	0.875				
x3.1		0.914			
x3.2		0.818			
x3.3		0.826			
x3.4		0.791			
y1			0.864		
y2			0.899		
y3			0.883		
z1				0.767	
z2				0.871	
z3				0.839	

Source: Data results, processed 2023

Based on Table 1, it can be explained that the outer loading obtained by each indicator for all variables Overconfidence, Fear of Regret, Herding, interest and investment decisions are all greater than 0.7. This means that the indicators that make up the variables Overconfidence, Fear of Regret, Herding, interest and investment decisions used in this research have met convergent validity, so that the three indicators that make up the variables Overconfidence, Fear of Regret, Herding, interest and decision investments can be used for further analysis.

b. Discriminant Validity (Discriminant Validity)

The second evaluation of the outer model is discriminant validity. To measure discriminant validity, cross loading values can be used. An indicator is said to meet discriminant validity if the indicator's cross loading value for its construct is the largest compared to other constructs. The following are the cross loading values for each indicator:

Table 2. Cross Loading Value Results

	Fear of Regret	Herding	Investation decision	Interest	Over-confidence
x1.1	0.608	0.549	0.363	0.216	0.891
x1.2	0.652	0.553	0.370	0.208	0.923
x1.3	0.521	0.622	0.195	0.099	0.855
x1.4	0.561	0.483	0.413	0.250	0.863
x1.5	0.638	0.576	0.377	0.361	0.901
x2.1	0.919	0.447	0.551	0.425	0.654
x2.2	0.901	0.438	0.590	0.338	0.573
x2.3	0.875	0.458	0.438	0.281	0.605
x3.1	0.431	0.914	0.328	0.238	0.498
x3.2	0.452	0.818	0.143	0.068	0.639
x3.3	0.406	0.826	0.077	0.048	0.541
x3.4	0.411	0.791	0.141	0.021	0.507
y1	0.524	0.247	0.864	0.360	0.360
y2	0.548	0.249	0.899	0.502	0.393
y3	0.496	0.210	0.883	0.491	0.322
z1	0.139	0.060	0.330	0.767	0.069
z2	0.325	0.119	0.458	0.871	0.192
z3	0.434	0.204	0.460	0.839	0.354

Source: Data results, processed 2023

Based on Table 2, it is known that the five indicators of the Overconfidence variable have the largest cross loading value on the Overconfidence variable, the three Fear of Regret indicators have the largest cross loading value on the Fear of Regret variable, the four Herding indicators have the largest cross loading value on the Herding variable, the three interest indicators have The largest cross loading value is on the variable of interest, likewise the three indicators of the investment decision variable also have the largest cross loading value on the investment decision variable. In other words, the cross loading value of each indicator on its construct is the largest compared to other constructs.

c. Composite Reliability

The final evaluation of the outer model is composite reliability. Composite reliability tests the reliability value of indicators on a construct. A construct or variable is said to meet composite reliability if it has a composite reliability value > 0.7. The following are the composite reliability values for each construct or variable:

Table 3. Composite Reliability Value Results

Construct (Variable)	Mark Composite Reliability
Overconfidence	0.926
Fear of Regret	0.904
Herding	0.913
Interest	0.866
Investation decision	0.949

Source: Data results, processed 2023

Table 3 shows that the composite reliability values for the variables Overconfidence, Fear of Regret, Herding, Interest and Investment Decisions are all more than 0.7. Thus, in the research model, each variable meets composite reliability.

2. Evaluation of Inner Model (Structural Model)

The following is a picture of the structural model developed in research analyzing Overconfidence, Fear of Regret and Herding on stock investment decisions in generation Z through Interest as an intervening variable:

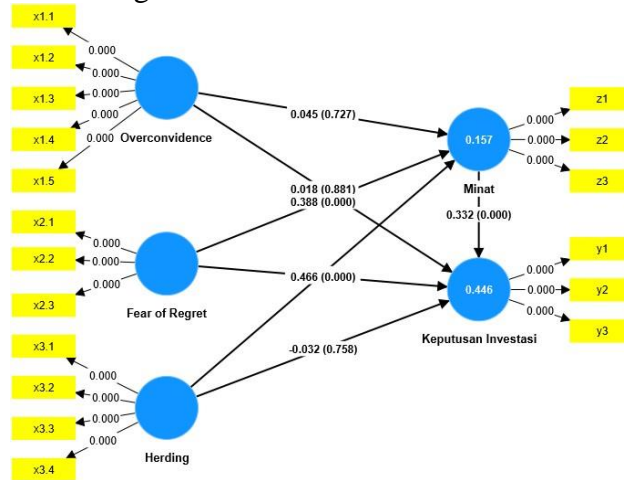


Figure 2. Structural Model analysis of Overconfidence, Fear of Regret and Herding on Generation Z stock investment decisions through Interest as an intervening variable

a. R-Square Value

The first evaluation of the inner model is seen from the R-Square value or coefficient of determination. Based on data processing with PLS, the R-Square value is produced as follows:

Table 3. R-Square Value Results

	Mark R-Square
Interest	0.157
Investation decision	0.446

Source: Appendix 3

Goodness of fit in the PLS model it can be known from the Q2 value. The Q2 value has the same meaning as the coefficient of determination (R-square / R2) in regression analysis. The higher R2, the better the model can be said to fit the data. From Table 3 above, the Q2 value can be seen as follows: R2 for the Interest variable is 0.157, meaning that the level of variation in changes in the Interest variable that can be explained by the Overconfidence, Fear of Regret and Herding variables is 15.7%. Meanwhile, the Investment Decision variable has an R2 of 0.446, which means that the level of variation in changes in the Investment Decision variable which can be explained by the Overconfidence, Fear of Regret, Herding and Interest variables is 44.6%.

b. Causality Test

Next is the causality test and is used to test the research hypothesis of analysis of Overconfidence, Fear of Regret and Herding on Generation Z share investment decisions through Interest as an intervening variable. The research hypothesis can be accepted if the p-value is <0.05. The following are the path coefficient values (original sample estimates) and p-values in the inner model:

Table 4. Coefficient Value Results Path and p-value

Causality	Original sample (O)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
-----------	---------------------	----------------------------	------------------------	----------

Fear of Regret -> Investment Decisions	0.466	0.093	5,020	0,000
Fear of Regret -> Interest	0.388	0.100	3,887	0,000
Herding -> Investment Decisions	-0.032	0.104	0.308	0.758
Herding -> Interest	-0.052	0.139	0.374	0.708
Interest -> Investment Decision	0.332	0.085	3,898	0,000
Overconfidence -> Investment Decision	0.018	0.123	0.149	0.881
Overconfidence -> Interest	0.045	0.130	0.349	0.727

Source: Data results, processed 2023

Based on Table 4, it can be explained in detail the testing of the research hypothesis analysis of Overconfidence, Fear of Regret and Herding on Generation Z share investment decisions through Interest as an intervening variable:

- Hypothesis 1: There is a significant influence of Overconfidence on Interest**
 The resulting path coefficient is 0.045 with a p-value of 0.727 which is greater than 0.05, this shows that there is an insignificant positive influence between Overconfidence and Interest. This means that the greater the Overconfidence, the more Interest can be increased, but the increase is not significant. Based on these results, the first research hypothesis is that Overconfidence has a significant effect on Interest not acceptable.
- Hypothesis 2: There is a significant influence of Fear of Regret on Interest**
 The resulting path coefficient is 0.388 with a p-value of 0.000 which is smaller than 0.05, this shows that there is a significant positive influence between Fear of Regret and Interest. This means that the higher the Fear of Regret, the higher the Interest. Based on these results, the second research hypothesis which suspects that Fear of Regret has a significant effect on Interest can be accepted.
- Hypothesis 3: There is a significant influence of Herding on Interest**
 The resulting path coefficient is -0.052 with a p-value of 0.708 which is greater than 0.05, this shows that there is an insignificant negative influence between Herding and Interest. This means that the higher the Herding, the lower the Interest. Based on these results, the third research hypothesis which suspects that Herding has a significant effect on Interest cannot be accepted.
- Hypothesis 4: There is a significant influence of Overconfidence on Investment Decisions**
 The resulting path coefficient is 0.018 with a p-value of 0.881 which is greater than 0.05, this shows that there is an insignificant positive influence between Overconfidence on Investment Decisions. This means that the greater Overconfidence can increase Investment Decisions, but statistically it is not significant. Based on these results, the fourth research hypothesis which suspects that Overconfidence has a significant effect on Investment Decisions cannot be accepted.
- Hypothesis 5: There is a significant influence of Fear of Regret on Investment Decisions**
 The resulting path coefficient is 0.446 with a p-value of 0.000 which is smaller than 0.05, this shows that there is a significant positive influence between Fear of Regret on Investment Decisions. This means that the higher the Fear of Regret can increase Investment Decisions. Based on these results, the fifth research hypothesis which suspects that Fear of Regret has a significant effect on Investment Decisions can be accepted.
- Hypothesis 6: There is a significant influence of Herding on Investment Decisions**
 The resulting path coefficient is -0.032 with a p-value of 0.758 which is greater than 0.05, this shows that there is an insignificant negative influence between Herding on Investment Decisions. This means that the greater the Herding, the lower the Investment

Decision. Based on these results, the sixth research hypothesis which suspects that Herding has a significant influence on Investment Decisions cannot be accepted.

7. Hypothesis 7: There is a significant influence of interest on investment decisions

The resulting path coefficient is 0.332 with a p-value of 0.000, which is smaller than 0.05, this shows that there is a significant negative influence between Interest and Investment Decisions. This means that the greater the interest, the greater the investment decision. Based on these results, the seventh research hypothesis which suspects that Interest has a significant influence on Investment Decisions can be accepted.

The following are the path coefficient values (original sample estimate) of the indirect effect and the p-value in the inner model:

Table 5 Coefficient Value Results Path and p-value of Indirect Effects

Causality	Original sample (O)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Overconfidence -> Interest -> Investment Decision	0.015	0.044	0.340	0.734
Fear of Regret -> Interest -> Investment Decision	0.129	0.041	3,141	0.002
Herding -> Interests -> Investment Decisions	-0.017	0.047	0.366	0.714

Source: Data results, processed 2023

8. Hypothesis 8: There is a significant influence of Overconfidence on Investment Decisions through Interest.

The path coefficient for Overconfidence on Investment Decisions through Interest is 0.015 with a p-value of 0.734 which is greater than 0.05, this shows that there is an insignificant positive influence between Overconfidence on Investment Decisions through Interest. This means that the greater Overconfidence will be able to increase Investment Decisions through Interest, but the increase is not statistically significant.

Based on these results, the eighth research hypothesis which suspects that Overconfidence has a significant effect on Investment Decisions through Interest cannot be accepted.

9. Hypothesis 9: There is a significant influence of Fear of Regret on Investment Decisions through Interest.

The path coefficient for Fear of Regret on Investment Decisions through Interest is 0.129 with a p-value of 0.002, smaller than 0.05, this shows that there is a significant positive influence between Fear of Regret on Investment Decisions through Interest. This means that the greater the Fear of Regret, the greater the Investment Decision through Interest.

Based on these results, the ninth research hypothesis which suspects that Fear of Regret has a significant effect on Investment Decisions through Interest can be accepted.

10. Hypothesis 10: There is a significant influence of Herding on Investment Decisions through Interest.

The resulting path coefficient of Herding on Investment Decisions through Interest is -0.017 with a p-value of 0.714 which is greater than 0.05, this shows that there is an insignificant negative influence between Herding on Investment Decisions through Interest. This means that the greater Herding will be able to reduce Investment Decisions through Interest, but the decrease is not significant. Based on these results, the tenth research hypothesis which suspects that Herding has a significant influence on Investment Decisions through Interest cannot be accepted.

5. Conclusions

Based on the results of behavioral finance analysis on students, the overconfidence variable does not affect interest, this overconfidence variable also does not affect investment decisions directly or indirectly, namely through interest as an intervening variable. Furthermore, the fear of regret variable influences interest, it also influences investment decisions directly and indirectly, namely through interest as an intervening variable. The next variable is Herding, herding influences interest, but this variable does not influence investment decisions directly or indirectly. luence investment decisions directly or indirectly.

References

- Ritter, J.R. (2003) Behavioral Finance. *Pacific-Basin Finance Journal*, 11, 429-437. [https://doi.org/10.1016/S0927-538X\(03\)00048-9](https://doi.org/10.1016/S0927-538X(03)00048-9)
- Adil, M., Singh, Y., & Ansari, S. M. (2021). How Financial Literacy Moderates the Association between Behavior Biases and Investment Decisions. 1–17. <https://doi.org/10.1108/AJAR-09-2020-0086>
- Adielyani, D., & Mawardi, W. (2020). The Influence of Overconfidence, Herding Behavior, and Risk Tolerance on Stock Investment Decisions: The Empirical Study of Millennial Investors in Semarang City. *Maximprenur Journal: Management, Cooperatives, and Entrepreneurship*, 10(1), 89. <https://doi.org/10.30588/jmp.v10i1.691>
- Ahmad, R., Riaz, S., Aqdas, R., Ibn, S., & Hassan, UL (2021). The Relationship among Overconfidence, Economic Expectation, Social Factors and Investment Decision Making Behavior with the Mediating and Moderating Effects. 27(2). <https://doi.org/10.47750/cibg.2021.27.02.127>
- Ariani, S., Rahmah, PAAAA, Putri, YR, Rohmah, M., Budiningrum, A., & Lutfi. (2016). The Influence of Financial Literacy, Locus of Control, and Ethnicity on Investment Decision Making. *Journal of Business and Banking*, 5(2), 257–270. <https://doi.org/10.14414/jbb.v5i2.550>
- Budiarto, A., & Susanti. (2017). The Influence of Financial Literacy, Overconfidence, Regret Aversion Bias, and Risk Tolerance on Investment Decisions (Study on Investors PT. Sucorinvest Central Gani IDX Investment Gallery, Surabaya State University). *Journal of Management Science*, 5(2), 1–9.
- Bodie, Z., Kane, A., & Marcus, A. (2016). *Portfolio and Investment Management*. Edition 9. Jakarta : Salemba Empat.
- Christopher, D. S. E. (2020). Individual Investor's Behavioral Biases on Investment Decision Making in the UAE. *Journal of Xi'an University of Architecture & Technology*, XII(VIII), 1069–1092.
- Gill, S., Kashif Khurshid, M., Mahmood, S., & Ali, A. (2018). Factors Effecting Investment Decision Making Behavior: The Mediating Role of Information Searches. *European Online Journal of Natural and Social Sciences*, 7(4), 758–767
- Hameed, WU, Sabir, S.A., Razzaq, S., & Humanyon, A.A. (2018). The Influence Of Behavioral Biases On Investment Decision Making: A Moderating Role Of Religiosity Among Pakistani Investors. *International Journal of Management Research and Emerging Sciences*, 8(1), 87–98. <https://doi.org/10.1186/s40497-018-0112>
- Jain, J., Walia, N., & Gupta, S. (2019). Evaluation of behavioral biases affecting investment decision making of individual equity investors by fuzzy analytic hierarchy process. *Review of Behavioral Finance*, 12(3), 297–314. <https://doi.org/10.1108/RBF-03-2019-0044>

- Khan, A.R., Azeem, M., & Sarwar, S. (2017). Impact of Overconfidence and Loss Aversion Biases on Investment Decisions: Moderating Role of Risk Perception. *International Journal of Transformation in Accounting, Auditing & Taxation*, 1(1), 23–35. <http://management.eurekajournals.com/index.php/IJTAAT/article/view/93/225>
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decisions under risk. *The Econometric Society*, 47(2), 263–292. <https://doi.org/10.2307/1914185>
- Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on afterward considered evidence. *Journal of Personality and Social Psychology*, 37(11), 2098–2109. <https://doi.org/10.1037/0022-3514.37.11.2098>
- Nguyen, D. Van, Dang, D. Q., Pham, G. H., & Do, D. K. (2020). Influence of overconfidence and cash flow on investment in Vietnam. *Journal of Asian Finance, Economics and Business*, 7(2), 99–106. <https://doi.org/10.13106/jafeb.2020.vol7.no2.99>
- Prawirasasra, R. & Dialysa, F. (2015). Implications of Behavioral Finance in the Investment Decision Making Process in Retirement. *Journal of the College of Economics*, 21-36
- Qasim, M., Hussain, R.Y., Mehboob, I., & Arshad, M. (2019). Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. *Accounting 5:81–90*. <https://doi.org/10.5267/j.ac.2018.07.001>
- Rahayu, S., Rohman, A., & Harto, P. (2021). Herding Behavior Model in Investment Decision on Emerging Markets: Experimental in Indonesia. *Journal of Asian Finance, Economics and Business*, 8(1), 053–059. <https://doi.org/10.13106/jafeb.2021.vol8.no1.053>
- Rahman, M., & Gan, S.S. (2020). Generation Y investment decisions: an analysis using behavioral factors. *Managerial Finance*, 46(8), 1023–1041. <https://doi.org/10.1108/MF-10-2018-0534>
- Ricciardi, V., & Simon, H. K. (2000). What is Behavioral Finance . *Business, Education and Technology Journal* Fall, 1-9.
- Rr. Iramani and Dhyka Bagus. (2008). Determining factors of investor behavior in stock transactions in Surabaya. *Journal of Management Applications*. Vol. 6. No. 3. p. 255-262.
- Setiawan, YC, Atahau, ADR, & Robiyanto, R. (2018). Cognitive Dissonance Bias, Overconfidence Bias and Herding Bias in Stock Investment Decision Making. *AFRE (Accounting and Financial Review)*, 1(1), 17–25. <https://doi.org/10.26905/afr.v1i1.1745>
- Shah, SZA, Ahmad, M., & Mahmood, F. (2018). Heuristic biases in investment decision-making and perceived market efficiency: A survey at the Pakistan stock exchange. *Qualitative Research in Financial Markets*, 10(1), 85–110. <https://doi.org/10.1108/QRFM-04-2017-0033>
- Asri, M. (2013). *Behavioral Finance*. Yogyakarta: BPFE-UGM.
- Hidayati, SA (2018). *Behavioral Finance and SMEs*. Mataram: Sanabil
- Shefrin, Hersh, 2000. *Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing*
- Sugiyono. 2017. *Quantitative, Qualitative and R&D Research Methods*. Bandung: Alfabeta.
- Tandelin, E. (2010). *Portfolios and investments: Theory and Applications*, 1st Edition. Yogyakarta: Kanisius.
- <https://yuknabungsaham.idx.co.id/about-yns>