

## The Influence of Loss Aversion, Herding Bias and Regret Aversion Towards Investment Decision to Shareholder in Pontianak

Equeza Ermulyawati<sup>1</sup>, Dedi Hariyanto<sup>2</sup> Heni Safitri<sup>3</sup>

<sup>1,2,3</sup> Faculty of Economics and Business, Muhammadiyah Pontianak University, Indonesia

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### ABSTRACT

**Background:** The purpose of this research is to know the influence of *Loss Aversion, Herding Bias* And *Regret Aversion* Towards Investment Decision to Shareholder in Pontianak.

**Method:** The research method being used is associational research, with the use of classical assumption test, including normality test, multicollinearity test, and linearity test, meanwhile the statistical analysis used multiple linear regression analysis, analysis of correlation coefficient, coefficient of determination analysis, simultaneous test, partial test.

**Results:** Based on the result of multiple linear regression analysis, it is estimated that the regression equation is  $Y = 6,741 + 0,446X_1 + 0,026X_2 + 0,366X_3$ , the analysis of correlation coefficient values is 0,768 showed that the influence of *Loss Aversion, Herding Bias* and *Regret Aversion* towards Investment Decision is strong. Coefficient of determination showed that 50,1% of investment decision is influenced by *Loss Aversion, Herding Bias* and *Regret Aversion* and the other 40,9% influenced by another variable unstudied in this research. The result of F-test showed that *Loss Aversion, Herding Bias* and *Regret Aversion* significantly influenced investment decision. The T-test showed that *Loss Aversion* alone has had influenced towards investors' investment decision. The T-test showed that Regret Aversion has had influence towards investors' investment decision.

**Conclusion:** There is influence of *Loss Aversion, Herding Bias* and *Regret Aversion* towards Investment Decision to Shareholder in Pontianak.



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### Corresponding Author:

Equeza Ermulyawati

Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Pontianak

Jl. Ahmad Yani No. 111, Pontianak, Kalimantan Barat

Email: [equezaermulyawati45@gmail.com](mailto:equezaermulyawati45@gmail.com)

## 1. INTRODUCTION

In the era of Generation Z, it is expected that the nation's economy and development will be improved through investment. Investment is a process to allocate the principal by the investor and



afterward will be managed by the person in charge to manage the share, and expected to generate return. Capital market is a place for buyers and sellers to meet, which means capital market is a facility for companies to earn funds from people to be used to expand the business and to raise funds. As means for people to invest on financial instrument for instance are stock, bond, mutual funds, etc. One of the capital market structures is securities company. Securities company is a party that owns licence from the Financial Services Authority (OJK) and responsible to manage the investment which is securities. In Indonesia, there are a lot of securities companies who own licence from Financial Services Authority (OJK) to conduct business, where in Pontianak there are 12 securities companies.

According to data reported by KSEI at the end of first semester of 2022, the amount of SID reached 4 million which 99,79% of them are local individual investors. The General Director of KSEI Urief Budhi Prasetyo said, the increasing number of stock investors is a sign of capital market achievement in Indonesia. The increasing happening since the beginning of Covid-19 pandemic in 2020. (www.kompas.com, 2022). The head of Representative Office of BEI Kalbar Taupan Febiola explains the development of capital market in West Kalimantan has total number of investors reaching 132.662 investor per Agustus of 2022 of 5 million citizen. There is increasing activity of account opening in capital market with total number of 28.472 individuals per Agustus of 2022. As for total transaction per Agustus 2022 reaching Rp 25,29 triliun. (Tribunpontianak.co.id, 2022).

Tabel 1. Total Number of Investors in West Kalimantan in 2020-2022

No	City/Region	2020	2021	2022
1	Bengkayang	536	1.261	2.113
2	Kapuas Hulu	639	1.122	1.695
3	Kayong Utara	180	472	801
4	Kubu Raya	3151	5.426	5.967
5	Melawi	533	1.044	8.448
6	Mempawah	143	367	2.245
7	Sambas	1.607	2.921	1.614
8	Sanggau	1.551	1.092	719
9	Sekadau	587	2.650	5.522
10	Sintang	1.276	5.229	4.189
11	Ketapang	1.780	3.807	1.593
12	Landak	736	1.426	3.838
13	Pontianak	17.265	30.095	42.617
14	Singkawang	2.580	3.431	7.718
<b>Total</b>		<b>32.564</b>	<b>60.343</b>	<b>89.079</b>

(Source: Indonesia Stock Exchange Representative Pontianak, West Kalimantan, 2022)

From table 1.1 it is reported that investors listed in BEI in Pontianak from 2020 to 2022 has increased significantly. In 2021 the number of investors in Pontianak increased 74,31% compared to 2020. Meanwhile in 2022 it increased 26,31% compared to the number in 2021. The decreasing and increasing number of investors is in line with the decreasing and increasing value of IHSG

The dynamic of IHSG value is determined by consumers' behavior affected by several factors when making investment decision. This influence is called behavioral finance biases. Behavioral finance is an approach to explain the relationship between human and psychological factor when placing an investment. The factors that influence the decision making are Loss Aversion, Herding Bias and Regret Aversion.

Investment decision is an effort from an investor to make a decision on investment, one of the purposes is to generate return in the future. According to Hidayatullah, Hariyanto, D., & Safitri (2022),

eventually investment decision requires fine management in order to let the investment and expenditure to be well regulated both in their financial management behavior and stock investment decision<sup>[1]</sup>. Meanwhile according to Rohmatussa'dyah (2017) "generally investment can be defined as an action of an individual or corporation to increased and/or maintain their market value, whether in cash, inventory, fixed asset, patent rights, or skill"<sup>[2]</sup>. When making an investment decision the investor needs to make a plan, observation, supervision dan analyse every information and being realistic and rational. Besides investment decision has long term dimension due to long term consequences.

Loss aversion is when an individual prefers to avoid a risk to prevent experiencing loss, in other word a condition where a possible loss or come across psychological and emotional loss is more severe than an equivalent gain. According to Loss Aversion, individual tends to avoid potential problem rather than obtain gain, therefore when a stock is predicted to be loss, the investor would rather sell their share. According to Aigbovo & Ilaboya (2019): "Loss Aversion is a situation where an individual avoids taking risk to evade loss. Loss aversion also an attitude rooted from a tendency to strongly prefer avoiding losses as opposed to achieving gains"<sup>[3]</sup>. A viewpoint from Akinkoye & Bankole (2020) determined that "loss aversion is a tendency of an investor to wary of past loss as a consequence of a flawed investment decision that leads to unsatisfactory return"<sup>[4]</sup>. Loss aversion is an intolerable behavioral bias since it is a contradiction to what an investor expected such as, increased risk and low return. Based on a study by Badri and Putri (2021) in the title of "Analisis Pengaruh Anchoring Bias Dan Loss Aversion Dalam Pengambilan Keputusan Investasi Di Kota Bandar Lampung"<sup>[5]</sup>. The analysis conducted found that loss aversion positively and significantly influences investment decision.

Herding bias is behavior to follow other people action. According to Fitriyani and Anwar (2022) "herding behavior is investor's irrational behavior to make investment decision based on the noise in the capital market while ignoring valid and fundamental information"<sup>[6]</sup>. Herding bias happens when individual imitates another investor who has the same type of investment product thereby the investor acts in accordance to another investor's behavior without conducting independent analysis. Herding bias refers to individual who previously appear rational but later turned irrational by imitating other individual's decision when making decision for themselves. This behavior happens as a result of lack of information compared to other investors. Based on a study by Rona and Sinarwati (2021) in the title of "Pengaruh Herding Bias Dan Overconfidence Bias Terhadap Pengambilan Keputusan Investasi dengan populasi semua investor yang pernah melakukan transaksi saham"<sup>[7]</sup>. The result found that herding bias loss aversion positively and significantly influences investment decision.

Regret Aversion is a trend to avoid making decision because of the fear of experiencing regret. According to Nurdinda, Muslihat & Putra (2020) "Regret Aversion leads investor to be overly conservative, overly anticipatory towards market since the market keep going down, the investor who is at loss appear to show herding behavior"<sup>[8]</sup>. In decision making process, investor is wary since poor decision leads to loss in the future. Individual with regret aversion is less likely to make a firm decision because of fear that the decision they make would lead to unsatisfactory return. According to a study by Addinpujoartanto and Darmawan (2020) in the title of "The Influence of Overconfidence, Regret Aversion, Loss Aversion and Herding Bias Towards Investment Decision in Indonesia"<sup>[9]</sup>. Based on the conducted analysis it is found that regret aversion positively and significantly influence investment decision.

Financial management behavior is considered to be an important concept in field finance which need fine management whether it is for company or individual investor. Mien and Thao (2015) presented financial management behavior as the determination, acquisition, allocation, and usage of financial resources<sup>[10]</sup>. Indicators of fine financial management behavior can be seen from individual's

attitude in cash management, credit management, and saving and investment (Hilgert & Hogart, 2003)<sup>[11]</sup>.

Based on the description above the researcher interested to conduct a study in the title of the influence of loss aversion, herding bias and regret aversion towards investment decision to shareholder in Pontianak.

## 2. METHOD

The design used in this research is associational research. According to Sugiyono, (2020:76) associational research is a study to find a correlation between two or more variables to explain, predict, and control a phenomena<sup>[12]</sup>. In this research, the researcher chose to conduct associational research to know the influence of Loss Aversion, Herding Bias and Regret Aversion towards investment decision to shareholders in Pontianak. The object of this research is all of stock investors in Pontianak in 2022 consist of 89.079 individuals.

According to Sugiyono (2020:145): "Population is a generalized area consists of; object/subject which has particular quantities and characteristics determined by the researcher to understand and conclude the outcome of the research". The population of this research is all of stock investors in Pontianak in 2022 consist of 89.079 individuals. According to Sugiyono (2020:146): "Sample is a portion of the target population who possess the characteristics of said population". To determine the sample size in this research, the researcher used Slovin formula.

As for the independent variables of research are Loss Aversion, Herding Bias, and Regret Aversion symbolized with X. While the dependent variable in this research is stock investment decision with Y. the data analysis is an activity collecting data based on variable and classification of respondents, data tabulating according to variable of respondents, presenting data of every examined variable, conduct measurement to answer research question and conducting measurement to the submitted hypothesis. In this research classical assumption test used 3 tests particularly normality test, multicollinearity test, and linearity test. While statistical analysis used multiple linear regression analysis, analysis of correlation coefficient, coefficient of determination analysis, simultaneous test, and partial test.

## 3. RESULTS AND DISCUSSION

### Multiple Linear Regression Analysis

Multiple linear regression analysis is used to know the direction between independent variables and dependent variables of the study, to see whether the variables affect each other positively or negatively. Here is the result of multiple linear regression analysis.

Tabel 4. Result of Multiple Linear Regression Analysis

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.741	2.914		2.313	.022
	Loss Aversion	.446	.083	.429	5.348	.000
	Herding Bias	.026	.072	.229	2.365	.004
	Regret Aversion	.366	.082	.377	4.460	.000

a. Dependent Variable: Investment Decision

Based on table 4.15 it is concluded that the result of multiple linear regression analysis formula as follows:

$$Y = 6,741 + 0,446X_1 + 0,026X_2 + 0,366X_3$$

- 1) The constant value of 6.741 explains that if Loss Aversion, Herding Bias, Regret Aversion are equal to 0, then the level of stock investment decisions will increase by 6.741.
- 2) Regression value of 0.446 (positive) indicates if variable Loss Aversion (X1) increases by 1 unit with the assumption that the variables Herding Bias (X2), and Regret Aversion (X3) remain constant, then the degree of investment decision also increases by 0.446.
- 3) Regression value of 0.026 (positive) indicates if variable Herding Bias (X2), increases by 1 unit with the assumption that the variables Loss Aversion (X1), and Regret Aversion (X3) remain constant, then the degree of investment decision also increases by 0.026.
- 4) Regression value of 0.366 (positive) indicates if variable Regret Aversion (X3) increases by 1 unit with the assumption that the variables Loss Aversion (X1), and Herding Bias (X2) remain constant, then the degree of investment decision also increases by 0.366.

### Correlation Coefficient (R)

Correlation explains the degree of the relationship of independent variable with dependent variable in multiple correlation system. Correlation coefficient test is a test to find relationship and to prove the hypothesis between two variables if both variables are interval or ratio. The result of correlation coefficient test is presented as follows:

Table 5. Result of Correlation Coefficient Test

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.768 <sup>a</sup>	.590	.581	4.934

a. Predictors: (Constant), Regret Aversion, Herding Bias, Loss Aversion

According to the table R value (correlation) is 0.768, where the value is sitting between 0,50-0,799 therefore it is concluded that Regret Aversion, Herding Bias, and Loss Aversion whose degree of relationship with investment decision are categorized as strong.

### Coefficient of Determination (R<sup>2</sup>)

Coefficient of determination (R<sup>2</sup>) is a measurement aims to examine how well a model explains a variance of dependent variable. Result of coefficient of determination is presented in table 5. According to the table the value of adjusted R square is 0.581. This means that (1 x 0,581 x 100%) 50,1% influence of Loss Aversion (X1), Herding Bias (X2) and Regret Aversion (X3) towards investment decision (Y) is 50,1% the other 40,9% is influenced by other variable not being discussed in this study.

### Simultaneous Test

F-test is a test conducted to show if all independent variables have equal influence towards dependent variable. Here is the result of F test:

Table 6. Result of F-Test

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5107.699	3	1702.566	69.949	.000 <sup>b</sup>
	Residual	3553.635	146	24.340		
	Total	8661.333	149			

*The Influence of Loss Aversion, Herding Bias and Regret Aversion Towards Investment Decision to Shareholder in Pontianak (Ermulyawati<sup>1</sup>, Hariyanto<sup>2</sup>, Safitri<sup>3</sup>)*



a. Dependent Variable: Investment Decision

b. Predictors: (Constant), Regret Aversion, Herding Bias, Loss Aversion

Based on table 6 it is revealed that significance value for the influence of Loss Aversion (X1), Herding Bias (X2) and Regret Aversion (X3) simultaneously towards investment decision (Y) is 0.000 lower than 0.05 and the value of F test is 69.949 greater than F table 2.67. Therefore, it is concluded that Loss Aversion, Herding Bias and Regret Aversion simultaneously have significant influence towards the making of stock investment decision.

#### Partial Test

T test aims to test if there is any influence in each independent variable towards dependent variable. Here is the result of T test:

Table 7 Result of T Test

Model		Coefficients <sup>a</sup>		Standardized	T	Sig.
		Unstandardized Coefficients	Std. Error	Coefficients		
		B		Beta		
1	(Constant)	6.741	2.914		2.313	.022
	Loss Aversion	.446	.083	.429	5.348	.000
	Herding Bias	.026	.072	.229	2.365	.004
	Regret Aversion	.366	.082	.377	4.460	.000

a. Dependent Variable: Investment Decision

Based on table 7 the result of hypothetical testing is as follows:

- 1) Based on table 4.18 value of sig. for Loss Aversion (X1) is 0.00 less than 0.05 and value of t test is 5.348 greater than t table that is 1.976. From the result it is showed that Ho is rejected and Ha is accepted which means partially variable Loss Aversion influences variable investment decision (Y).
- 2) Based on table 4.18 value of sig. for Herding Bias (X2) is 0.004 less than 0.05 and value of t test is 2.365 greater than t table that is 1.976. From the result it is showed that Ho is rejected and Ha is accepted which means partially variable Herding Bias (X2) influences variable investment decision (Y).
- 3) Based on table 4.18 value of sig. for Regret Aversion (X3) is 0.000 less than 0.05 and value of t test is 4.460 is greater than t tabel that is 1.976. From the result it is showed that Ho is rejected and Ha is accepted which means partially variable Regret Aversion (X3) influences variable investment decision (Y).

## 4. CONCLUSION

### Conclusion

Based on the result of analysis and the conducted research discussion, it is concluded that:

- a. Multiple linear regression equation shows that regression equation as  $Y = 6,741 + 0,446X1 + 0,026X2 + 0,366X3$ .
- b. Result of coefficient correlation (r) is 0,766 thus the value shows that Loss Aversion (X1), Herding Bias (X2) and Regret Aversion (X3) and degree of relationship towards the making of investment decision is categorized as strong.

- c. Result of coefficient of determination on adjusted R square is 0.581 which means 50,1% Loss Aversion (X1), Herding Bias (X2) and Regret Aversion (X3) have influence towards investment decision (Y) and the other 40,9% is influenced by other variable not being discussed in this study.
- d. Based on the result of simultaneous test (F test) shows that Loss Aversion (X1), Herding Bias (X2) and Regret Aversion (X3) simultaneously have significant influence towards investment decision (Y). It is visible as the value of sig is  $0,000 < 0,05$ .
- e. Partial test (t test) shows that specifically Lose Aversion influences stock investment decision. Meanwhile Herding Bias influences stock investment decision. And Regret Aversion influences stock investment decision.

### Recommendation

As for suggestions recommended by the researcher are as follow:

- a. To conduct *framing* significantly about the potential which influence the perception of investor regarding *loss aversion*. To make a list of questions about the disadvantages or advantages could affect response or decision as investor.
- b. Regarding investment decision it is expected to lessen and avoid Herding Bias behavior which is an attitude of copying others. As well as to improve creativity and innovation to create investment product in order to earn value and to generate return.

Suitable degree of Regret Aversion would guide community to place an investment thus it is expected that securities companies to develop and take investment products in order to gave the community options to choose investment from.

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