



## Mind Matters in Investments: Unveiling the Psychological Forces Shaping Decision Making Behavior

Monica Rahardian Ary Helmina<sup>1</sup>, Novika Rosari<sup>2</sup>, Meina Wulansari Yusniar<sup>3</sup>, Nanik Sri Utaminingsih<sup>4</sup>

Faculty of Economics and Business, Universitas Lambung Mangkurat, Banjarmasin, Indonesia<sup>1,2,3</sup>

Faculty of Economics and Business, Universitas Negeri Semarang, Semarang, Indonesia<sup>4</sup>

### Info Article

#### History Article:

Submitted 5 June 2023

Revised 31 July 2023

Accepted 24 August 2023

#### Keywords:

decision-making; gender; myopic loss aversion (MLA), psychological determinants.

### Abstract

The Indonesian Central Securities Depository (KSEI) in 2021 revealed a significant increase in the number of capital market investors. This study aims to analyze the psychological and gender biases influencing capital market investors in making risky investment decisions, based on the theory of myopic loss aversion (MLA). The participants two groups: experienced and inexperienced investors. The experimental stage involved manipulating the groups with two types of treatment, frequent and infrequent, using a between-within-subject design with a 2 x 2 factorial structure. The results of the gender experiment showed that male and female participants in the experienced group exhibited similar levels of courage. However, in the inexperienced group, which mainly consisted of students, gender differences were observed. Men tended to be more daring and speculative in their decision-making, particularly during the pandemic. On the other hand, women tended to prioritize security in their investment choices. Additionally, the study found evidence of a "shock effect" experienced by participants during the experiment. This effect contributed to investors' cautious decision-making, and it was also influenced by gender differences. The findings suggest Men in the inexperienced group displayed higher risk-taking tendencies compared to women, who were more focused on security when using their investment funds.

## Hal Penting dalam Investasi: Mengungkap Kekuatan Psikologis yang Membentuk Perilaku Pengambilan Keputusan

### Abstrak

Kustodian Sentral Efek Indonesia (KSEI) pada tahun 2021 mengungkapkan peningkatan jumlah investor pasar modal yang signifikan. Penelitian ini bertujuan untuk menganalisis bias psikologis dan gender yang mempengaruhi investor pasar modal dalam mengambil keputusan investasi berisiko berdasarkan teori myopic loss aversion (MLA). Para peserta dua kelompok: investor berpengalaman dan tidak berpengalaman. Tahap eksperimen melibatkan manipulasi kelompok dengan dua jenis perlakuan, sering dan jarang, menggunakan desain antara-dalam-subjek dengan struktur faktorial 2 x 2. Hasil eksperimen jenis kelamin menunjukkan bahwa peserta laki-laki dan perempuan dalam kelompok yang berpengalaman menunjukkan tingkat keberanian yang sama. Namun, pada kelompok yang tidak berpengalaman, yang sebagian besar terdiri dari siswa, perbedaan gender diamati. Laki-laki cenderung lebih berani dan spekulatif dalam mengambil keputusan, terutama di masa pandemi. Di sisi lain, perempuan cenderung mengutamakan keamanan dalam pilihan investasinya. Selain itu, penelitian ini menemukan bukti adanya "efek kejutan" yang dialami oleh peserta selama percobaan. Efek ini berkontribusi pada pengambilan keputusan yang hati-hati oleh investor, dan juga dipengaruhi oleh perbedaan gender. Temuan menunjukkan Pria dalam kelompok yang tidak berpengalaman menunjukkan kecenderungan pengambilan risiko yang lebih tinggi dibandingkan dengan wanita, yang lebih fokus pada keamanan saat menggunakan dana investasi mereka.

JEL Classification: G11, G23

How to Cite: Helmina, M. R. A., Rosari, N., Yusniar, M. W., Utaminingsih, N. S. (2023). Mind Matters in Investments: Unveiling the Psychological Forces Shaping Decision Making Behavior. *Jurnal Dinamika Manajemen*, 14(2), 273-285.

## INTRODUCTION

When investors invest in companies, they certainly need more than just counting shirt buttons to choose a name to buy from a list of company stock names. A smart stock investor is an investor who does company analysis. Company history for analysis is typically derived from quarterly and annual reports, commonly known as financial statements. Data from the IDX (Indonesia Stock Exchange) between the end of 2018 and the end of 2019 revealed a surge in the number of investors, rising from 1,619,372 to 2,484,354, marking a 53.41% increase. However, this increase was surpassed by the data from the end of 2019 to 2020. By the close of 2020, the number of investors had soared to 3,880,753, despite the ongoing pandemic. This suggests that investments in the capital market became more popular among people compared to traditional businesses, which faced a downturn due to the Large-Scale Social Restrictions (PSBB) implemented during the pandemic.

Both fundamentalists and technicalists, all stock investors, flocked to pursue profits in their own ways. However, since the massive correction of the Composite Stock Price Index (IHSG) in early 2020 until its peak on March 20, 2020, many of these investors, especially the newcomers, have come to realize that the stock market is not always about making profits. Despite the substantial rise in the number of investors, the transaction volume in 2019 surpassed that of 2020. In 2019, the transaction volume reached 36,534,971,048, whereas in 2020, it amounted to 27,495,947,445. This observation implies that a considerable number of investors tend to adopt a “wait and see” strategy, patiently awaiting the opportune moment for their transactions.

Behavioral finance has been a topic of research since the 1950s, almost simul-

taneously with the formulation of modern investment portfolio theory. Research that has incorporated psychological factors into their financial research (Burrell, 1951; Bauman, 1967; Slovic, 1972; Slovic & Bauman, 1972, Asri, 2003). However, the formulation of various theories in standard finance at that time such as modern portfolio theory (Markowitz, 1952), single index model (Sharpe, 1963), capital asset pricing model (CAPM) (Sharpe, 1964; Lintner, 1965; and Mossin, 1969), efficient market hypothesis (Fama, 1970), option pricing theory (Black & Scholes, 1973), and arbitrage pricing theory (APT) (Ross, 1976) received an extraordinary response from academics so that behavioralists seemed to ‘drowned’ at that time (Asri, 2003).

Prospect theory, which introduced by Kahneman & Tversky (1979), is an analysis of a person’s behavior in making economic decisions. This theory introduces behavioral analysis which is conceptually contrary to the expected utility theory that has long been used by researchers to explain the decision-making process. This research then prompted the emergence of various research in behavioral finance in the following decades. Basically, the topics raised in this article also lead to behavioral financial theory. The analysis in this study focuses on the behavior of investors in the risk investment decision-making process based on the theory of myopic loss aversion (MLA) from Benartzi & Thaler (1995).

Myopic loss aversion, as explained by Benartzi & Thaler (1995), combines two behavioral theories: loss aversion and mental accounting. Loss aversion pertains to the tendency of individuals to be more attentive to losses than gains. A person is considered loss averse when their caution is more pronounced when it comes to avoiding losses rather than pursuing gains (Haigh & List, 2005). This concept is cor-

roborated by the prospect theory, which empirically asserts that an individual's sensitivity to loss is approximately twice as strong as their sensitivity to gain (Kahneman & Tversky, 1979; Kahneman, 1990; Tversky & Kahneman, 1979).

Mental accounting refers to a series of cognitive actions taken by economic actors in managing, evaluating, and maintaining their financial activities (Thaler, 1999). Furthermore, Pompian (2006) states that mental accounting refers to the activities of coding, categorizing, and evaluating financial decisions. In certain cases, mental accounting discusses how a transaction is evaluated over the time (for example regarding how often a portfolio is evaluated) and cross-sectionally (for example whether the transaction is evaluated based on its portfolio or evaluated individually) (Thaler et al., 1997; Haigh & List, 2005).

Over time and evolving information requirements, financial statements viewed by users continue to exhibit short coming. These shortcomings are attributed to the absence of crucial company-related information. To assess a company comprehensively, it is imperative to consider not only the numerical data within financial statements but also various other factors, including corporate objectives, economic and industrial contexts, management practices, corporate culture, and community engagement. Furthermore, traditional accounting practices often focus solely on tangible assets, overlooking the increasingly important real of intangible assets, such as goodwill.

Haigh & List (2005) used treatment I and treatment F adopted from Gneezy & Potters (1997) to test the MLA theory. Their empirical study found that the professional group showed behavior consistent with the MLA theory, besides that their degree of consistency was higher than that of students. These findings indi-

rectly support the research of Gneezy & Potters (1997) which also found the consistency of students towards MLA theory. Based on the previous empirical findings and the background above, this research wants to know whether there is an effect of frequent treatment and infrequent treatment on company valuation.

### **Hypothesis Development**

Experimental research testing the MLA theory of Benartzi & Thaler (1995) is still very limited. (Gneezy & Potters, 1997; Haigh & List, 2005) used two types of treatment in their experiments, namely frequent treatment (F) and infrequent treatment (I) to test the MLA theory. Treatment F allows participants to evaluate their trading results periodically or in a relatively short period of time (per round), while treatment, i allows participants to evaluate their trading results in a relatively longer period of time (per three rounds). This study tries to re-examine the MLA theory of Benartzi & Thaler (1995) by adopting both treatments while at the same time showing the possibility of differences in behavior (level of courage) between the experienced (professional) group and the inexperienced (non-professional) group in the risk investment decision-making process. To uncover this phenomenon, both groups (experienced and inexperienced) were involved simultaneously as participants in this experiment. In addition, researchers also pay special attention to gender variables that have not been carried out in previous MLA experiments. Empirical findings from Watson & McNaughton (2007) show that women have a higher degree of risk averse than men.

### **Behavioral Finance Theory**

Behavioral finance can clearly be interpreted as the application of psychology in the discipline of finance (Pompian, 2006). This theory began to develop in the

1950s, where Burrell (1951) and Bauman (1967) at that time had begun to include elements of psychology in their research. Meanwhile, Slovic (1972) has written articles on the investment decision-making process from a behavioral perspective. In understanding behavioral finance theory, it is necessary to first understand who the real investor is. According to several financial experts who are members of Bailard, Biehl & Kaiser (an investment institution in California, United States) stated that basically investors in the capital market can be categorized into five models (the five-ways model), namely adventurers, celebrities, individualists, guardians, and straight arrows (Pompian, 2006; Asri, 2003). Adventurers usually don't care about risk and even like it (risk takers) so that they tend to ignore financial advisors' advice. Celebrities are a subset of investors who appear to prioritize gaining visibility and being the focal point within the capital market. Their inclination to seek attention often leads them to not fully consider the profitability and losses associated with their investments, as long as their trading activities gain widespread recognition. If such investors were to dominate the market, it could deviate significantly from rationality.

### **Decision Making**

Liu & Zhang (2023) argue that decisions are the outcomes of problem-solving that require resolute confrontation. In the Big Dictionary of Science, decision-making (Decision Making) is defined as the process of choosing decisions or policies based on specific criteria. Within this process, there are typically two or more alternatives; if there were only one alternative, there would be no decision to make. Firstly, decision-making can be perceived as the result or output of mental or cognitive processes that lead to the selection of a course of action among multiple available

alternatives. Secondly, every decision-making process culminates in a final choice. If these two types of investors dominate the market, it may deviate from rationality. Order effects occur when decisions made by individuals differ after receiving evidence in a different order (Helmina et al., 2020).

### **Myopic Loss Aversion (MLA)**

The theory of investment portfolios asserts a direct relationship between expected return and risk. This implies that the greater the return anticipated by an investor, the higher the potential level of risk they may encounter. Given the inherent risk factors associated with each unit of expected return, investors must perform a thorough analysis before arriving at an investment decision. Consequently, investment choices will ultimately hinge on investors' analytical capabilities and their willingness to take calculated risks.

The choice to invest in safer assets while disregarding the potential for higher returns is a phenomenon in the capital market that has proven to be exceedingly challenging to explain using economic models, confounding researchers to this day. Therefore, within financial theory, the equity risk premium is frequently referred to as the "equity premium puzzle" (Siegel & Thaler, 1997). In their attempt to unravel this enigma, Mehra & Prescott (1985) analyzed the phenomenon using stock and bond returns. Their empirical findings only manage to elucidate that a high degree of risk aversion can partially account for why most investors opt for bonds.

Additionally, Benartzi & Thaler (1995) amalgamated two behavioral concepts, namely "loss aversion" (Kahneman and Tversky, 1979) and "mental accounting" (Thaler, 1985), which later came to be known as "myopic loss aversion (MLA)", in order to establish a theoretical

framework for examining the equity premium puzzle.

### **Mental Accounting**

Mental accounting was pioneered by Professor Richard Thaler from the University of Chicago (Pompian, 2006; Haigh & List, 2005). Mental accounting itself can be understood as a series of cognitive processes undertaken by economic actors to manage, evaluate, and maintain their financial activities (Thaler, 1999). Conversely, mental accounting can also be viewed as a system for recording and summarizing business and financial transactions in a ledger, followed by analysis, verification, and reporting of the outcomes (Thaler, 1999). Additionally, Pompian (2006) defines mental accounting as encompassing the processes of coding, categorizing, and assessing financial decisions.

### **Gender**

Research on the effect of gender on transaction intentions has been examined in several countries and found different results. Several opinions support the link between gender and investment decisions, finding that there is a relationship between gender and investment behavior and that male investors are more active in making transactions than women, especially buying transactions (Barber et al., 2001; Pompian & Longo, 2004; Feng & Seaholes, 2005). Meanwhile, both male and female investors have the same tendency to make selling transactions (Grinblatt & Keloharju, 2001). Bogan et al. (2013) investigated the relationship of gender diversity to investment decision behavior and found team composition influenced the decision-making process with regard to risk and loss assessment and found evidence that the presence of male investors increased the probability of selecting higher risk investments, for example This finding is supported by Tauni et al. (2017) which

states that male investors trade stocks more often than women. Marital status also influences the intention to transact in the capital market, where unmarried men tend to invest part of their income to buy shares compared to women, both married and single. This is due to the position of women who tend to avoid investing in risky assets, for example stocks because they have an unstable return rate and prefer stable income so that it influences the intention to invest in stocks in the future (Pak & Mahmood, 2015).

Other studies have found no relationship between gender and investment decisions (Nga & Ken Yien, 2013). In Indonesia, Ramadhani & Adhariani (2016) found no effect of gender diversity on the composition of company boards on investment efficiency, this is due to the fact that the number of female commissioners is far less than that of male commissioners, so there is a possibility of the influence of family factors in placing women as members of the board, which can cause their competence to be considered insufficient in making decisions thereby affecting the efficiency of the company's investment. These findings cannot be concluded with certainty regarding the relationship between gender and investment decisions because they do not yet have strong empirical evidence, so it is necessary to address this by examining in more detail how gender influences transaction intentions with the perspective of individual investors in the Indonesian Capital Market.

Since the concept of loss aversion was introduced by Kahneman & Tversky (1979), which suggests that losses weigh more heavily than gains, the frequent evaluation of investments in risky assets can lead to higher levels of investor dissatisfaction (Haigh & List, 2005). Research conducted by Gneezy & Potters (1997) revealed behavioral differences between students who received frequent and infre-

quent feedback when making investment decisions. In this study, student subjects were divided into two groups, one receiving treatment F (frequent) and the other treatment I (infrequent), to observe their consistency with the MLA theory.

The experimental results demonstrated that students were consistent with the MLA theory in their process of making risky investment decisions. This was evident in their behavior, as students tended to be more willing to take risks, as indicated by larger bets in each round of the experiment, when they received treatment, I compared to when they received treatment F (Gneezy & Potters, 1997). Moreover, Haigh and List's research in 2005 also exhibited consistency among professional options and futures traders from CBOT (Chicago Board of Trade) towards the MLA theory. Furthermore, they stated that the consistency of professional traders towards the MLA theory was higher than that observed in students.

H1: The inexperienced group is more daring to take risk investment decisions when given infrequent treatment (I) than when given frequent treatment (F).

H2: The experienced group is more daring to make risk investment decisions when given infrequent treatment (I) than when given frequent treatment (F).

The concept of loss aversion, put forward by Kahneman & Tversky (1979) states that losses weigh more heavily than gains. The high frequency of evaluating investments in risky assets can lead to higher levels of investor dissatisfaction as well (Haigh & List, 2005). Research by Gneezy & Potters (1997) revealed behavioral differences between students who received frequent and infrequent feedback when making investment decisions. This study used student subjects who were gi-

ven treatment F (frequent) and treatment I (infrequent) to observe their consistency with the MLA theory. The experimental results showed that students are consistent with the MLA theory in the process of making risky investment decisions. This consistency was reflected in their behavior, as students tended to be more willing to take risks (shown by larger bets in each round of the experiment) when they were given treatment I compared to when they were given treatment F (Gneezy & Potters, 1997).

Haigh and List's research in 2005 also demonstrated the consistency of professional options and futures traders from CBOT towards the MLA theory. Furthermore, they stated that the consistency of professional traders towards the MLA theory was greater than that observed in students. Empirical studies related to overconfident behavior in the stock market from a gender perspective do not provide conclusive results. Barber & Odean (2001) concluded that male investors tend to behave more overconfidently and thus transact more frequently than female investors. Lewellen et al. (1977) showed that men tend to (1) use more time and money when analyzing stocks, (2) be less dependent on brokers, (3) make more transactions, (4) believe that returns can be predicted, and (5) be more optimistic about obtaining higher profits compared to women. On the other hand, the findings of other studies show that there is no significant difference in the level of overconfidence between male and female investors (Deaves et al., 2004).

H3: There are differences between groups of women and men in making risky investment decisions.

## METHOD

This study purpose to uncover potential behavioral differences between the two groups of participants in the decision-

making process related to risky investments. List's research (2002, 2003, 2004) shows that there is a reduction in market anomalies in making investment decisions, especially among economic actors who have market experience. This finding validates the notion that there could be behavioral distinctions in making risky investment decisions among professionals (experienced) and non-professionals (inexperienced), as well as with regard to gender (Haigh & List, 2005).

The population for this experiment consisted of undergraduate students majoring in accounting at a university in Banjarmasin who had successfully completed the Financial Management course, along with stock investors who were affiliated with various securities companies in South Kalimantan. The selection of experimental subjects was based on specific criteria with the objective of ensuring that the chosen groups closely aligned with each other, thus meeting the criteria in experimental research.

For the inexperienced group, the criteria were as follows:

- (1) Is an active student majoring in accounting in the regular class who has passed the Financial Management or Capital Market courses, and
- (2) Join the investor-club in the campus environment.

As for the experienced group, the criteria given are:

- (a) Is an active investor registered in a securities company in South Kalimantan, and
- (b) Have a minimum of one (3) year stock trading experience.

The number of samples for each group while the participants include 40 people. The number of experimental subjects as many as 80 people (40 people per cell) was considered sufficient because it was in accordance with the recommendations of Myer & Hansen (2001) that the

experimental subjects consisted of at least 15-20 people for each treatment group.

### Experiment Design

This research is an experimental study that tries to re-examine the MLA (quantitative confirmatory) theory and is explanatory. The manipulated factor here is the causative factor (independent variable) namely myopic loss aversion, while the effect factor is the dependent variable, namely risky investment decision making. The researcher manipulated four experimental conditions using a mixed within-between subject design with a 2 x 2 matrix, (two groups of participants: experienced (represented by stock investors) and inexperienced (represented by students), and two types of treatment: frequent and infrequent).

The experimental technique in this study refers to the research of Gneezy & Potters (1997) and Haigh & List (2005) by making a number of modifications. The treatment given is divided into two, namely Frequent treatment (evaluation of trading results is carried out periodically / per round) and Infrequent treatment (evaluation of trading results is carried out in a longer period / per three rounds). The participants are given initial capital at the beginning of each round.

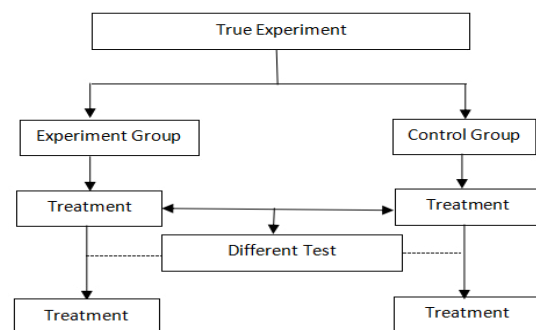


Figure 1. Experimental Framework

This difference considers the return that has been obtained by investors on the stock exchange (Haigh & List, 2005). Participants win or lose are determined by the accuracy of choosing prices as a form of company assessment.

**Table 1.** Treatment Table

Participant	I	F	G
Investors	X1	X3	X5
Students	X2	X4	X6

### Operational Definition of Variables

The independent variable in this study is myopic loss aversion (MLA) which is a theory that shows investor behavior that is not always rational so that it considers psychological factors. There are two types of treatment, namely frequent and infrequent. While the dependent variable in this study is investment decision making, by providing a company assessment. In this experiment the author will control for gender variables which have been empirically proven to influence the behavior of an investor in assessing the company (Jaggia & Thosar, 2000; Watson & McNaughton, 2007).

Testing the MLA theory (within-subject design) was conducted using a paired-samples t-test. Meanwhile, to examine the potential behavioral differences, as indicated by the significant number of bets (between-subject design), an independent-samples t-test was employed. Additionally, to assess the impact of gender on each group of participants, nonparametric statistics were employed, specifically the Mann-Whitney U Test. In the process of data analysis, researchers utilized SPSS and Eviews software for assistance.

### Data Analysis

The basic assumption in multivariate analysis is normality (Hair et al., 2010).

The results of statistical tests are said to be better (not degraded) if the observation sample is normally distributed. Thus, before analyzing the data, a normality test will be carried out on the observation sample first. The test results are then used to determine the type of statistics and analytical tools to be used. The normality test in this study included the shapiro-wilk test, the liliefors test (kolmogorov-smirnov), and the jarque-fallow test (JB-test).

## RESULT AND DISCUSSIONS

The number of subjects who participated in this study were 80 investors, 40 active investors and 40 students. Most participants with male gender. The age of most participants is in the range of 20-35 years. The education level of most participants is undergraduate. Regarding activities on the stock exchange, some of the samples are active investors. Meanwhile, those with no experience, most of the samples still had relatively little knowledge and experience. Likewise, the ownership of the certificate shows that most of the samples still do not have certification. The investment that has been invested by most of the samples is still relatively small. The data summary for the number of participants who are willing and able to be used by subject group is presented in Table 2.

**Table 2.** Participant Number Data

No	Characteristics	Total	%
1	<b>Gender</b>		
	Male	43	54
	Female	37	47
	Total	80	100
2	<b>Age</b>		
	18 – 35	45	56
	36 – 52	25	31
	53 – 65	10	13
	Total	80	100



Table 2 presents the overall subject demographic information of the 80 participants. The first is from the characteristics of gender, seen from the number of investors involved in stock trading, it shows that there are slightly more female investors compared to the number of male investors. There were 53.5% male participants and 46.5% female. So it can be said that the number of subjects in this study was balanced between men and women. In terms of age, 56.3% of the participants in this study were aged 18-35 years, 31.2% aged 36-52 years and 12.5% aged 52 and over. This shows that the productive age of investors is at the age of 18-35 years because 50% of the participants are students.

Experiment uses a mixed design with a 2x2 matrix. To test the variables associated with decisions in company valuation. This is intended to see whether gender, education, age, and experience can influence investors' decisions to value stocks. Based on the characteristics of the participants such as gender, age, education, experience, it shows that there are significant differences for investors in

assessing companies. The only thing that does not make a difference is investor education.

Table 3 shows the mean and standard deviation values for each round and for each 3 rounds. Separation in 3 rounds is intended to match the infrequent treatment which is the giving of bets for every 3 rounds. Statistical descriptions show that the experienced group tends to give a bigger bet than the inexperienced group. Likewise, it shows that the Infrequent treatment tends to give a bigger bet than the Frequent treatment.

The analysis of the data distribution demonstrates that each sample group exhibits a normal distribution, indicating that the data points are reasonably distributed around the mean within each group. Furthermore, the results of the sample variance test reveal that all four sample groups display homogeneous variances, suggesting that the spread of data within each group is relatively consistent and comparable. This statistical validation ensures the reliability of the data for subsequent analyses and inferences.

**Table 3.** Descriptive of Average

	N	Min.	Max.	Mean	Std. Dev
Participants Assessment	80	1.0	6.0	3.567	1.130

**Table. 4** Test of normality and homogeneity

Group	Normality test				Homogeneity	
	Kolmgv-Smirnov		Shapiro-Wilk		Lav test	Sig.
	Stat	Sig.	Stat	Sig.		
TB - F	0.09	0.20	0.98	0.92	0.55	0.65
B - F	0.20	0.03	0.92	0.10		
TB - I	0.12	0.20	0.97	0.59		
B - I	0.16	0.20	0.92	0.11		

**Table 5.** Test of difference

Round	Not Experienced Group		Experienced Group	
	Frequent vs Infrequent		Frequent vs Infrequent	
	t	Sig.	t	Sig.
Bet 1 - 3	-2.419	0.020	-1.936	0.060
Bet 4 - 6	-2.765	0.009	-1.918	0.063
Bet 7 - 9	-2.945	0.005	-2.089	0.044
Mean of Bet 1-9	-3.601	0.001	-3.769	0.001

**Table 6.** Test of bet based on Gender

Gender	Mean	Std Dev	t	Sig
Male	40.58	4.52	2.191	0.031
Female	38.32	4.68		

The test results show that in table 5, the inexperienced group it is found that the Infrequent treatment gives a significantly larger bet than the no treatment or the Frequent group. Likewise in the Experienced group the results also show that the Infrequent treatment provides a significantly larger bet than the no treatment or the Frequent group. This means that both Hypothesis 1 and hypothesis 2 are supported by the results of this study.

The experimental outcomes revealed that students consistently adhered to the MLA theory in their approach to making risky investment decisions. This consistency was evident in their behavior, as students showed a greater willingness to take risks, as demonstrated by larger bets in each round of the experiment when they received treatment I, as opposed to when they received treatment F (Gneezy & Potters, 1997). Additionally, Haigh and List's research in 2005 also demonstrated the alignment of professional options and futures traders from the CBOT (Chicago Board of Trade) with the MLA theory. Fur-

thermore, they noted that the consistency of professional traders with the MLA theory was even higher than that observed in students.

Gender has been found to exert a statistically significant effect on the participants' betting behavior (p-value = 0.031, which is less than the commonly accepted significance level of 0.05). This means that both Hypothesis 3 is supported by the results of this study.

This finding indicates that the capacity to evaluate company stocks based on myopic tendencies is influenced by gender. Notably, both male and female investors exhibit discernible differences in their decision-making processes, emphasizing the role of gender as a significant factor in shaping investment decisions.

The research findings on the influence of gender on transaction intentions support previous studies conducted in various countries, which have consistently shown a connection between gender and investment decisions. These studies have revealed a correlation between gender and

investment behavior, with male investors being more active in transactions, especially in terms of purchases (Barber et al., 2001; Pompian & Longo, 2004; Feng & Seaholes, 2005; Bogan et al., 2013; Tauni et al., 2017). This research indicates that gender diversity influences investment decision-making, particularly in the processes related to risk assessment and loss evaluation. It also provides evidence that the presence of male investors increases the likelihood of choosing riskier investments, such as stocks, and male investors tend to trade stocks more frequently than female investors. This is due to women's tendency to avoid investing in high-risk assets like stocks because they have unstable return rates.

#### CONCLUSION AND RECOMMENDATION

The three hypotheses in this study have been accepted. Based on the results of the analysis shows that giving treatment in the form of infrequent will increase the amount of assessment made by both experienced and inexperienced investors. This shows that the ability to make decisions is also likely to be influenced by the characteristics of loss aversion and mental accounting possessed by a person. Based on the characteristics of the participants, such as gender and age, there is a significant difference for investors in assessing the company. Gender shows that there is an influence on the participants' assessment of the company. This means that the decision-making ability to assess company shares based on myopia presented also depends on gender. Male and female investors show significant differences in assessing the company. Age characteristics are also proven to be a factor that can influence the valuation of company shares. Investors who are young or mature seem to have different abilities compared to older investors.

#### REFERENCES

- Asri, M. (2003). *Ketidakrasionalan Investor di Pasar Modal*, Pidato Pengukuhan Jabatan Guru Besar Pada Fakultas Ekonomi Universitas Gadjah Mada Yogyakarta, tanggal 6 Desember.
- Barber, B. M., Odean, T., Guercio, D. D., Hirshleifer, D., Karolyi, A., Loughran, T., & ... Viceira, L. (2001). Boys Will be Boys: Gender, Overconfidence, and Common Stock Investment. (February), 261–292.
- Bauman, W. S. (1977). "Scientific Investment Analysis: Science or Fiction?" *Financial Analyst Journal*.
- Benartzi, S., & Richard H. Thaler. (1995). Myopic Loss Aversion and the Equity Premium Puzzle. *Quarterly Journal of Economics*, 110, 73–92.
- Benzion, U., & Joseph Yagil. (2003). Portfolio Composition Choice: a Behavioral Approach. *Journal of Behavioral Finance*, 4(2), 85-95.
- Bogan, Vicki. L., David R. Just., & Chekitan S. Dev. (2013). Team Gender Diversity and Investment Decision-Making Behavior. *Review of Behavioral Finance*, 2(2), 134-152.
- Burrell, O. K. (1951). Possibility of an Experimental Approach to Investment Studies. *Journal of Finance*, (June).
- Byrnes, J.P. (1998). *The Natural and Development of Decision-Making: a Self-Regulation Model*. Mahwah, NJ: L. Erlbaum Associates.
- Cohn, Richard A., Wilbur G. Lewellen, Ronald C. Lease, & Gary G. Schlarbaum. (1975). Individual Investor Risk Aversion and Investment Portfolio Composition. *Journal of Finance*, 30(2), 605-620.
- Cooper, Donald R., & Pamela S. Schindler. 2006. *Metode Riset Bisnis*, vol. 1. Jakarta: PT Media Global Edukasi.
- Dwyer, P.D., Gilkeson, J.H., & List, J. A. (2002). Gender Differences in Revealed Risk Taking: Evidence from Mutual Fund Investors. *Economics Letters*, 76(2), 151-158.
- Elster, J. (1998). Emotions and Economic

- Theory. *Journal of Economic Literature*, 36(1).
- Felton, J., Bryan, G., & David M. Sanbonmatsu. (2003). Preference For Risk in Investing as a Function Of Trait Optimism and Gender. *Journal of Behavioral Finance*, 4(1), 33-40.
- Grinblatt, M., & Keloharju, M. (2001). What Makes Investors Trade? *Journal of Finance*, 56(2), 589–616.
- Ghozali, I. (2007). *Aplikasi Analisis Multivariate dengan Program SPSS*. Semarang: Badan Penerbit Universitas Diponegoro.
- Gneezy, U., Arie, K., & Jan, P. (2003). Evaluation Periods and Asset Prices in a Market Experiment. *Journal of Finance*, 58, 821–838.
- Gneezy, U., & Jan, P. (1997). An Experiment on Risk Taking and Evaluation Periods. *Quarterly Journal of Economics*, 112, 631–645.
- Haigh, M. S., & John A. List. (2005). Do Professional Traders Exhibit Myopic Loss Aversion? an Experimental Analysis, *The Journal of Finance*, 60(1), 523-534.
- Hair, J. F. Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate Data Analysis: A Global Perspective*, 7<sup>th</sup> ed. NJ: Pearson Prentice Hall.
- Helmina, M. R. A., Ghozali, I., Isgiyarta, J., & Sutomo, I. (2020). Effect of Ordo in Assessment of Financial and Non-Financial Information. *Jurnal Dinamika Manajemen* 11(1), 78-83.
- Hinz, R.P., D.D. McCarthy, and J.A. Turner. (1997). Are Women Conservative Investors? Gender Differences In Participant-Directed Pension Investment. In *Positioning for The Twenty- First Century*, Philadelphia, PA: University of Pennsylvania Press.
- Isaac, S., & William B. M. (1990). *Handbook In Research and Evaluation* 2<sup>nd</sup> edition, Edith Publishers. San Diego: California.
- Jaggia, S., & Satish, T. (2000). Risk Aversion and the Investment Horizon: a New Perspective on the Time Diversification Debate. *Journal of Psychology and Financial Markets*, 1(3-4), 211-215.
- Kahneman, D., & Amos, T. (1979). Prospect Theory: an Analysis of Decision under Risk. *Econometrica*, 47, 263–291.
- Kahneman, D., Jack, L. K., & Richard, T. (1990). Experimental Test of the Endowment Effect and the Coase Theorem. *Journal Of Political Economy*, 1325-1348.
- Latipun. (2008). *Psikologi Eksperimen*, edisi kedua. Malang: UMM Press.
- List, J. A. (2002). Preference Reversals of a Different Kind: the More is Less Phenomenon. *American Economic Review*, 92, 1636–1643.
- List, J. A. (2003). Does Market Experience Eliminate Market Anomalies? *Quarterly Journal of Economics*, 118, 41–71.
- List, J. A. (2004). Neoclassical Theory Versus Prospect Theory: Evidence from the Marketplace. *Econometrica*, 72, 615–625.
- Mehra, R., & Edward, P. (1985). The Equity Premium: a Puzzle. *Journal of Monetary Economics*, 15, 145–161.
- Myers A., & Hansen, C. H. (2001), *Experimental Psychology*. USA: Wadsworth Thomson Learning.
- Neuman, W. L. (2006). *Social Research Methods - Qualitative and Quantitative Approaches*, 6<sup>th</sup> edition. Pearson Education.
- Novemsky, N. & Daniel, K. (2005). How Do Intentions Affect Loss Aversion? *Jornal of Marketing Research*, 42, 139-140.
- Pak, O., & Mahmood, M. (2015). Impact of Personality on Risk Tolerance and Investment Decisions: a Study on Potential Investors Of Kazakhstan. *International Journal of Commerce and Management*, 25(4), 370–384.
- Pompian, M. M. (2006). *Behavioral Finance and Wealth Management – How to Build Optimal Portfolios that Account for Investor Biases*. USA: John Wiley & Sons, Inc.
- Pompian, M. M. (2012) *Behavioral Finance and Investor Types: Managing Behavior to Make Better Investment Decision*. John Willey & Sons, Inc Feng & Sea-sholes, 2005.
- Quattlebaum, O. M. (1988). Loss Aversion:

- the Key to Determining Individual Risk. *Journal of Financial Planning*, 66-68.
- Ramadhani, Z. I., & Desi, A. (2017). Semakin Beragam Semakin Baik? Isu Keberagaman Gender, Keuangan, dan Investasi Perusahaan. *Jurnal Keuangan dan Perbankan*, 21(1), 1-11.
- Riley, W. B., & K. Victor Chow. (1992). Asset Allocation and Individual Risk Aversion. *Financial Analysts Journal*, 48(6), 32-37.
- Save-Soderbergh, J. (2003). Essay on Gender Differences in Economic Decision-Making. *Thesis*, Stockholm University.
- Schmidt, U., & Horst, Z. (2005). What Is Loss Aversion? *The Journal of Risk and Uncertainty*, 30(2), 157-167.
- Siegel, J. J., & Richard H. T. (1997). Anomalies the Equity Premium Puzzle. *Journal of Economic Perspectives*, 11, 191 -200.
- Slovic, P. (1969). Analyzing the Expert Judge: a Study of a Stockbroker's Decision Process. *Journal of Applied Psychology*, 54(4).
- Slovic, P., & W. S. Bauman. (1972). Analyzing the Use of Information in Investment Decision Making: a Methodological Proposal. *Journal of Business*, (April).
- Starmer, C. (2000). Developments in Non-Expected Utility Theory: the Hunt for a Descriptive Theory of Choice Under Risk. *Journal of Economic Literature*, 38, 332-382.
- Thaler, R. H. (1985). Mental Accounting and Consumer Choice. *Marketing Science*, 4, 199-214.
- Thaler, R. H., Amos, T., Daniel K., & Alan Schwartz. (1997). The Effect of Myopia and Loss Aversion on Risk Taking: an Experimental Test. *Quarterly Journal of Economics*, 112, 647-661.
- Thaler, R. H. (1999). Mental Accounting Matters. *Journal of Behavioral Decision Making*, 12, 183-206.
- Thaler, R. H. (1993). *Advances in Behavioral Finance*. New York: Russell Sage Foundation.
- Tauni, M. Z., Rao, Z. -R., Fang, H., Mirza, S. S., Memon, Z. A., & Jebran, K. (2017). Do Investor's Big Five Personality Traits Influence the Association between Information Acquisition and Stock Trading Behavior? *China Finance Review International*, 7(4), 450-477.
- Tversky, A., & Daniel, K. (1992). Advances in Prospect Theory Cumulative Representation Of Uncertainty. *Journal of Risk and Uncertainty*, 5, 297-323.
- Tversky, A., & Daniel, K. (1991). Loss Aversion in Riskless Choice: a Reference-Dependent Model. *The Quarterly Journal of Economics*, (November), 1039-1061.
- Uyanto, S. S. (2006). *Pedomam Analisis Data dengan SPSS*. Yogyakarta: Graha Ilmu.
- Watson, J., & McNaughton, M. (2007). Gender Differences in Risk Aversion and Expected Retirement Benefits. *Financial Analysts Journal*, 63(4), 52-62.
- Zhunzhun L., & Ruidong, Z. (2023) An Empirical Study on Herd Behavior in Cryptocurrency Trading. *Journal of Computer Information Systems*, 1-15.