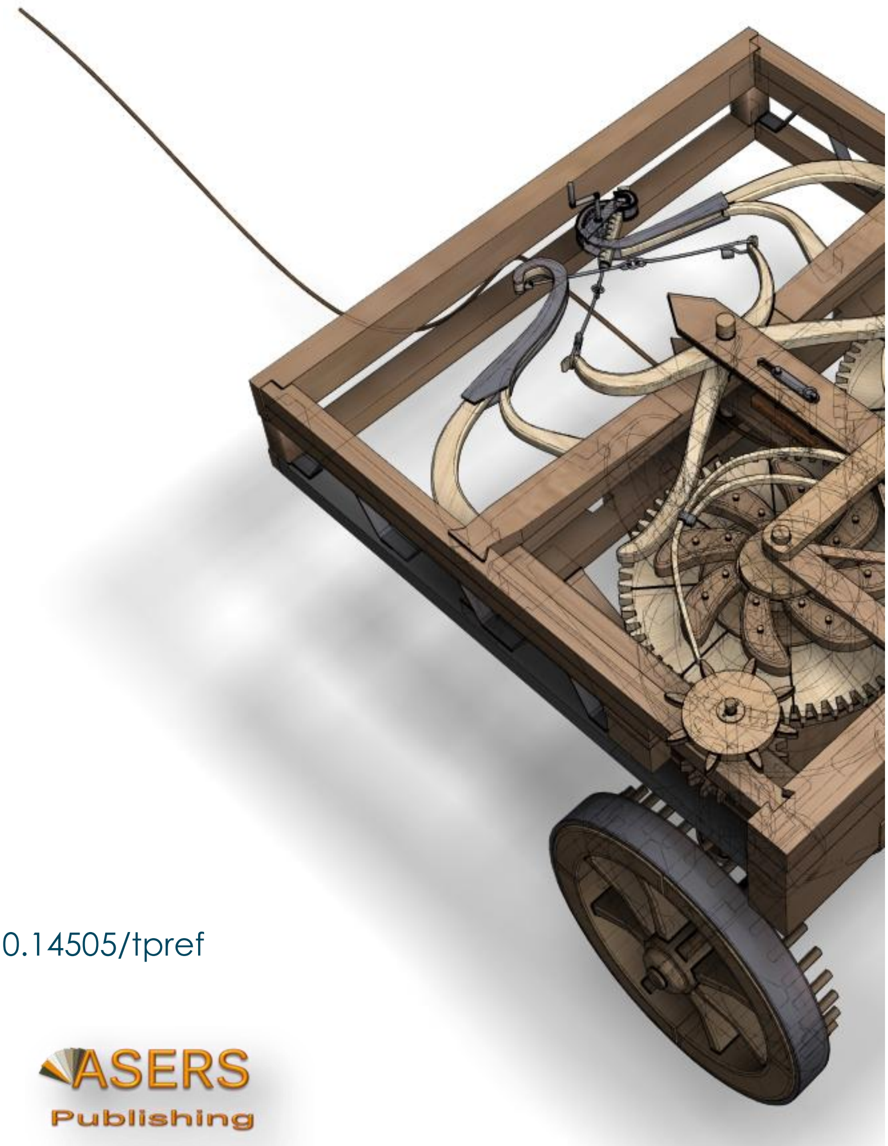
Theoretical and Practical Research in Economic Fields



Quarterly
Volume XVI
Issue 2(34)
Summer 2025

ISSN: 2068 – 7710
Journal DOI: https://doi.org/10.14505/tpref

ASERS Publishing

Volume XVI
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ASERS Publishing
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Journal's Issue DOI:
https://doi.org/10.14505/tpref.v16.2(34).00

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Volume XVI
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ASERS Publishing
http://www.asers.eu/asers-publishing
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Call for Papers
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Theoretical and Practical Research in Economic Fields

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DOI: https://doi.org/10.14505/tpref.v16.2(34).16

The Role of Greed in Moderating Factors That Enhance Investment Decisions

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Article info: Received 15 April 2025; Received in revised form 5 May 2025; Accepted for publication 30 May 2025; Published 30 June 2025.

Abstract: The study aims to empirically test the effects of risk tolerance, social networks and financial literacy on individual investment decisions in the Ponzi scheme in Indonesia. In this study, greed is used as a moderating variable. A questionnaire distributed online obtained a total sample of 402 individual investors who were or had invested in the Ponzi Scheme. Data was analyzed with structural equation modelling-partial least square (SEM-PLS). The results demonstrate that risk tolerance, social networks and financial literacy affect individual investment decision-making in the Ponzi scheme. Meanwhile, greed does not moderate the relationship between risk tolerance, social network and financial literacy in individual decision-making in a Ponzi scheme. The findings of this study confirm that risk tolerance drives individuals to invest in risky schemes such as Ponzi. Risk-tolerant individuals tend to take the opportunity to make money from the Ponzi scheme. Social networks are also shown to have a significant effect on individual investment decisions in Ponzi schemes. Information obtained by the individuals through interactions with their social environment, both face-to-face and social media, strengthens the intention to join Ponzi scheme investments. Meanwhile, good financial literacy makes individuals more optimistic and confident to invest in Ponzi. Greed does not moderate the effects of risk tolerance, social networks and financial literacy on individual investment decisions in a Ponzi scheme.

Keywords: investment strategy; Ponzi scheme; investment decision; risk tolerance; social media influence; financial literacy.

JEL Classification: G41; G11; D91; D14; L26.

Introduction

Humans try to get money to fulfill all their needs and desires, both now and in the future. Needs and desires often increase along with increasing income, while the real value of money continues to decrease over time due to inflation. To overcome this, one alternative that the community can use is to invest.

The issue of individual investment decisions continues to be an interesting topic for researchers, professionals and policymakers because it is related to the individual's goal of achieving financial well-being. The many investment alternatives available affect the individual's investment decision-making process. Many individuals make investment decision-making processes independently, but not all investment decisions result in profits, and investors do not always make the right investment decisions.

The money game or Ponzi scheme is one of the most frequently identified investment schemes in various illegal investment cases in Indonesia. A Ponzi scheme is a form of financial fraud that uses investor funds to pay returns to other investors; even in some cases, investor funds are used for the personal interests of the organizer. Throughout 2022, the OJK Investment Alert Task Force recorded that there were more than 610 illegal investment entities reported by the public (OJK 2023). Several examples of illegal investment cases with Ponzi schemes in Indonesia that have harmed the public up to trillions of rupiah, such as the Pandawa Group in 2016, which harmed up to IDR 3.8 trillion, Dream for Freedom and First Travel in 2017, which each harmed their customers up to IDR 3.5 trillion and IDR 0.8 trillion. These entities generally offer unrealistic returns to their investors without any clear and identifiable underlying business using investor funds to pay returns to other investors.

The decision to invest in fraudulent schemes such as Ponzi can be associated with irrational decision-making that places the expectation of high returns as the goal but does not consider the rationality of the scheme and the risks that may be faced. Simon (1952) introduced the concept of bounded rationality or limited rationality, where individuals (or companies) always act according to their goals but will act against their goals if they have complete and perfectly rational information. He identified the constraints faced in decision-making. First, there is only a little information that is sometimes unreliable about possible alternatives and their consequences. Second, the limited ability of human thinking to evaluate and process the available information, and third the limitation of time. In other words, the source of bounded rationality is the limited processing capacity of the human brain ('stupidity'), the lack of knowledge about alternatives in the choice set ('ignorance'), and the role of 'passion' Simon's concept of bounded rationality also distinguishes between intuition and thinking. Institutional economist Commons asserts that human behavior is goal-oriented but also heavily influenced by "stupidity, ignorance and passion" (Kaufman 1999).

The ease with which individuals join illegal investment schemes such as Ponzi is not only influenced by their level of tolerance for risk. Greenspan (2009b) explains that it is easy for investors to be fooled by Ponzi because investors see the fact that other people have made much money and become a story that can be persuasive evidence. This tendency is called irrational exuberance. The pressure of this irrational exuberance will be greater, especially when friends or relatives become rich after investing. This interpersonal influence can occur due to the social process or interaction between social members.

The theory of planned behavior (TPB) is also related to the Consumer Socialization Theory, which predicts that communication between consumers can influence cognitive, affective and behavioral attitudes (Ward 1974). Individual behavior or attitudes are the result of learning obtained through social interaction in their social activities. Schmidt & Spreng (1996) stated that decision-making on investment products could be described in the framework of consumer purchasing decision-making, namely a series of steps including problem recognition, information search, alternative evaluation, purchasing decisions and post-purchase behavior.

In TPB theory, intention is a necessary condition for voluntary action that is activated by perceived opportunities or because intentions can change as more information becomes available. Social interactions often create an exchange of information and knowledge in society. Information plays an important role in purchasing decisions, especially investment products (Lin and Lee 2002). Information search aims to obtain the highest benefit from each resource spent, reduce the risk of loss and increase satisfaction with the choice of products or decisions. Before making an investment decision, people often seek as much information as possible to be used as consideration in making decisions. Individuals will seek more information before making an investment decision than before buying other goods because investments involve more risk and tend to be based on trust or experience.

The inconsistency of findings regarding the role of financial literacy in producing optimal investment decisions aimed at minimizing this risk is a research gap that will be filled by this study, especially in the context of individual investment decisions in risky products or entities included in Ponzi schemes. This study also includes greed as a variable that moderates the influence of risk tolerance, social networks and financial literacy on individual investment decisions in Ponzi schemes because greed has been shown to be an important factor that drives someone to invest in Ponzi schemes (Onoh & Eze, 2018; Quisenberry, 2017; Rasool & Ullah, 2020). Badua (2020) states that the most common motive that causes people to invest in risky schemes is the desire to get money in a short time.

Fei *et al.* (2021) found that the high cost of living is one of the factors that play an important role in shaping motivation, decision-making and investment behavior. In addition, the existence of social pressure that their financial ability usually measures a person's success also plays a role in a person's materialistic nature. The strong desire to get something or wealth encourages individuals to be greedy, coupled with a hedonistic lifestyle that prioritizes pleasure or happiness, which can generally be fulfilled with money and possessions, thus triggering them to be more materialistic. Greed blinds investors so that risk is often forgotten when pursuing high returns.

Individual attitudes towards risk may change when faced with offers of very high returns. They may even be willing to risk their savings in order to make more money. They may forget about the risk factors of the investment because of the promise or convincing evidence that they can make much money or become rich from the investment. Investment decisions are one of the financial decisions that must be made by individuals in order to achieve financial well-being. The right investment decisions can improve financial well-being; conversely, unwise investment decisions may have a negative impact on individual finances. Financial literacy is the basic capital for individuals in considering various investment alternatives that are increasingly complex today.

The development of technology and the internet has changed a lot about how people seek information, communicate and interact to market financial products such as investments. Individuals must be able to filter the information they get to avoid investment risks that can harm their well-being. However, each individual has a different risk tolerance that can affect the investment decisions they make. The greed factor often makes someone ignore valid information and may tend to follow decisions made by others in order to get the benefits they want. Individuals with high levels of greed may be more easily influenced by promises of very high and fast investment returns, creating a high risk for their finances.

The study aims to determine the Role of Greed in Moderating Factors that Increase Investment Decisions. The study determines how greed plays a role in determining investment decisions in companies.

1. Literature Review

1.1 Relationship of Risk Tolerance with Individual Investment Decisions

Investment is an activity that contains uncertainty of outcome or risk. Individuals make investment decisions usually based on their perception, preference and knowledge of risk. Individuals have different risk preferences resulting in different decisions even though they are faced with similar choices. Individuals can be risk averse, risk takers or neutral to risk. This attitude towards risk will determine the decisions taken on various investment product alternatives available.

Emotions, as powerful psychological experiences, can involve changes in an individual's thoughts, behavior, and world perception. In investment decisions, emotions influence investors' thoughts and actions, ultimately affecting the results (Hinvest *et al.* 2021). Investors often experience intense emotional pressure when making investment decisions. There are things such as market volatility, potential losses, or high expectations. Emotions can influence investors to make irrational decisions, such as hastily selling their stocks or holding them in unfavorable market conditions. These conditions can affect long-term investment outcomes and cause investors to incur losses. However, emotions generate better investment results. Investors who can control their emotions and make decisions based on rational analysis are often more successful at generating profits from their investments (Lerner *et al.* 2015; Chambers, C. D., & Tzavella 2022; Sutejo *et al.* 2023)

Baruah and Parikh (2018) found that risk tolerance has a significant effect on investment decisions. That suggests that individuals who avoid risk may not easily decide to invest. Nguyen, Gallery, and Newton (2019) found that risk tolerance is closely related to the allocation of risky assets; risk-averse individuals tend to exaggerate negative outcomes so that they feel certain investments are riskier while risk-seeking individuals tend to exaggerate positive outcomes. Loke (2017) showed that risk tolerance can explain financial vulnerability in working individuals in Malaysia. Risk-taking individuals tend to be financially vulnerable; however, individuals who diversify their savings with stock and bond holdings tend to be more financially vulnerable than just saving.

H1: Risk Tolerance Affects Individual Investment Decisions.

1.2 The Relationship of Social Networks to Individual Investment Decisions

Individuals are social beings who have friendships and family relationships that can form opinions and influence decisions, including decisions related to finances. Someone might make decisions that are in line with their colleagues or family to avoid conflict. On the other hand, media is a means to share stories and attract someone's attention. Social interaction with other people and the availability of internet facilities that make it easy for media to reach all groups can trigger a wider word-of-mouth effect. Ostrovsky-Berman and Litwin (2019) explain the relationship between social networks, defined as "people who are considered close" with investment tendencies. They concluded that social networks are a relevant predictor of the desire to invest in risky assets. Ouimet and Tate (2017) also found that individual investment decisions are influenced by friends, where the influence becomes greater when their friends have more information. These findings strengthen the evidence of the relationship between risky investments and the influence of a person's social environment.

Moreover, heightened financial literacy is linked to increased participation in retirement savings plans. Contrarily, Sobaih & Elshaer (2023) delved into the impact of financial literacy on investment behaviour, unveiling that individuals with enhanced financial knowledge possess greater confidence in their investment decisions and are adept at effectively managing investment risks. Their study further indicated a positive influence of financial literacy on retirement planning and asset allocation strategies. Oppong *et al.* (2023), Khababa & Ahmadjonov (2023) contributed to this discourse by establishing a connection between higher levels of financial knowledge and success in investment decisions, encompassing wealth maximization and increased profits

Anser *et al.* (2020) used the theory of planned behavior to examine the effect of social media usage on individual interest in buying Bitcoin. Using a sample of 443 respondents, they found that social media usage has a positive effect on interest in buying Bitcoin, and perceived risk moderates the relationship between interest and the actual behavior of individuals buying Bitcoin. Social media sites make it easier than ever to collect and analyze information and public opinion.

H2: Social Networks Influence Individual Investment Decisions

1.3 Greed Moderates Risk Tolerance towards Individual Investment Decisions

Risk tolerance is an individual's attitude towards the uncertainty that will be received in the promised results. In general, people who are tolerant of risk will consider the promise of very high profits as compensation for risk. Such people tend to ignore fraud signals because of the greedy urge to create wealth. Meanwhile, people who tend to avoid risk will consider placing funds in illegal investments because of the desire to generate wealth quickly and easily, even though they know there are risks. Greed strengthens the desire to bet on risky investments such as Ponzi, even though they know there are risks. Mussel *et al.* (2015) found that more greedy individuals take higher risks than less greedy individuals. That causes greedy individuals to tend to make risky decisions. They also mentioned that greedy individuals have difficulty learning from experience, especially mistakes, punishments or negative events.

H3: Greed Strengthens the Relationship between Risk Tolerance and Individual Investment Decisions

1.4 Greed Moderates Social Networks on Individual Investment Decisions

Flexing, or the activity of showing off possessions, achievements or luxury, activates a person's materialistic nature and encourages someone to be greedy so that they may not want to miss the opportunity to make money easily and quickly. Flexing done by someone, either conventionally or through social media, will motivate others to imitate or want the same thing. Greed will strengthen an individual's desire to make money quickly, especially when they face high social pressure, so they are more susceptible to being deceived by illegal investments. The existence of media and the internet makes it easy for them to access information on how to make money quickly and easily in order to fulfill personal satisfaction and to be accepted in certain social groups. Word-of-mouth can also occur because of an individual's social relationships with others, not only with family, relatives, friends, superiors, or even with other people they do not know well. Success stories obtained from investments with very high profits even change a person's lifestyle dramatically to become an attraction for this kind of investment. They are reinforced by the drive for greed in individuals so that they increase their desire to be able to make money like that person.

Financial decisions are essential and necessary in a family's financial and personal wealth management (Sahi *et al.* 2013). The conventional finance theories focusing on utility maximization assume that markets are efficient and investors are rational in their decision-making. In efficient markets, information reaches the market quickly and equally. For rational decision-making, investors collect and process this information. Based on objective information and their attitude, investors make investment decisions. However, in traditional finance, there is a lack of consensus on the efficiency of the financial markets and rational decision-making of investors (Mahmood *et al.* 2024).

H4: Greed Strengthens the Relationship between Social Networks and Individual Investment Decisions

2. Method

This study uses a positivist or quantitative approach with an explanatory type. This study aims to explore the determinants of individual investment decisions who have invested in illegal Ponzi scheme investments throughout Indonesia. The sampling technique in this study is a non-probability sampling technique, namely the purposive sampling method, so the sample in this study was 385 people. The data collection technique in this study was by questionnaire. Inferential statistical analysis is used to test the hypothesis or to determine the causal relationship between variables that have been set in the model. The inferential analysis used in this study is the Partial Least Square Structural Equation Model (PLS-SEM).

3. Research Results

3.1 Measurement Model

The results of the convergent validity test show that with 402 respondents, it has a loading factor value of > 0.6 and an AVE value of > 0.5. Meanwhile, the results of the cross-loading estimation show that the loading value of each item in its construct is greater than the cross-loading value, so all latent variable constructs are valid discriminants. The Fornell-Larcker Criterion value is also greater than the correlation value between other latent variables, so the item meets discriminant validity. Construct reliability is tested by looking at the composite reliability value and Cronbach's Alpha value. Composite reliability shows a value of > 0.6 and a Cronbach's alpha value of > 0.7, so it can be said that the instrument has met reliability. The R2 analysis shows a value of 0.505 or 50.5%, so it has a coefficient of determination value that tends to be moderate.

3.2 Structural Model Testing

R2 analysis shows the level of determination of exogenous variables on endogenous variables. The greater the R2 value, the better the level of determination. The study's R2 value, 0.505, is the R Square value.

PLSpredict / Cross-Validated Predictive Ability Test (CVPAT). The blindfolding method does not provide an assessment of out-of-sample predictive power. Hence, Hair *et al.* (2022) suggest using CVPAT (cross-validated predictive ability test) because it provides the results needed for an assessment of out-of-sample predictive power. All indicators have a Q2 prediction value greater than zero, indicating that the PLS path model is better than its benchmark. Based on the comparison of PLS_SEM_RMSE and LM_RMSE values, it can be concluded that the model has high predictive power. Analysis using SmartPLS for each relationship was carried out using the bootstrapping method on the sample. The calculation of CVPAT can be seen in the following Table 1:

Table 1. Value CPVAT

	Q^2predict	PLS-SEM_RMSE	PLS-SEM_MAE	LM_RMSE	LM_MAE
$Y_{1.1.1}$	0,362	0,783	0,557	0,789	0,575
$Y_{1.2.1}$	0,363	0,764	0,554	0,777	0,572
$Y_{1.3.1}$	0,332	0,762	0,542	0,762	0,552
$Y_{1.3.2}$	0,369	0,740	0,528	0,751	0,543
$Y_{1.4.2}$	0,361	0,802	0,584	0,808	0,580
$Y_{1.5.1}$	0,325	0,815	0,578	0,819	0,610

Source: Data Processing, 2024

Analysis using SmartPLS for each relationship is done using the bootstrapping method on the sample. That is done to minimize the problem of data abnormality.

Table 2. Path coefficient and hypothesis test results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values	Description
X_1 -> Y	0,167	0,161	0,065	2,582	0,010	Significant
X_2 -> Y	0,308	0,306	0,057	5,374	0,000	Significant
M x X_1 -> Y	0,020	0,029	0,063	0,314	0,754	Not Significant
M x X_2 -> Y	0,011	0,003	0,054	0,204	0,838	Not Significant

3.3 Relationship of Risk Tolerance to Individual Investment Decisions

The results of the study stated that the risk tolerance variable had an effect on investment decisions with a p-value of 0.010. The test results prove that individual risk tolerance has a significant positive influence on investment decisions in Ponzi schemes. That shows that when individuals have a high-risk tolerance or are more tolerant, they tend to decide to invest in Ponzi schemes. Individuals who are tolerant of risk find it easier to open up or accept investment offers such as Ponzi schemes, they do not want to be late compared to other people or do not want to miss the opportunity to get high investment returns. That may be because they already understand how investment works, so they have to be the first or at the top of the pyramid to get high profits before the scheme collapses.

Several studies show that people who invest in risky entities tend to be risk seekers and optimists, especially those who have been victims more than once (Fei *et al.* 2021). Tennant (2011) states that people with a high-risk tolerance are more open to Ponzi scheme investment offers and tend to be encouraged to try this scheme for the first time. Loke (2017) also shows that the level of risk tolerance can explain a person's level of vulnerability to falling into illegal investments. Trimpop (1994) shows that risk-seeking individuals usually have good knowledge of risk. Cox (2014)found that some of them often consider the risk of losing money or losses in investment schemes of this kind to be normal because they believe that every business, whether legal or illegal, is inherently risky and may fail or suffer losses. So, they say that this uncertainty is not a barrier to investing, and to achieve success, investors must accept the risk of losing money.

3.4 The Relationship of Social Networks to Individual Investment Decisions

The results of the study stated that the social network variable had a significant influence on investment decisions with a p-value of 0.00. The test results show that social networks have a significant positive effect on individual investment decisions. So, social interactions carried out by individuals, either directly or through the internet and social media, influence individual investment decisions in Ponzi schemes. The environment and social ties in which individuals interact play a role in shaping a person's perceptions so that they are used in the decision-making process, including investment decisions.

Social networks play a fundamental role as a great tool for spreading information, ideas, tendencies, values, emotions and influence in society through word of mouth (Kempe *et al.* 2015; Magessi & Antunes, 2013). On the TPB concept, individual behavior or attitudes result from the learning they obtain through interactions between individuals or community agents. The majority of respondents in this research are the younger generation, who are also digitally literate and utilize technology and social media as sources of information and reference. Having suggestions from people who are considered important or famous strengthens the desire to invest. That proves that opinions and advice from other people in a person's social environment are very valuable in investment decisions and are strengthened by the existence of the internet and social media, which makes it easier for them to access how other people have successfully invested in Ponzi schemes.

Chimaobi and Perpetua (2020); Wilkins *et al.* (2012) found that investors were interested in investing in Ponzi schemes because they were informed by their family members, friends or acquaintances. Even though investors are often hesitant to invest, when they see friends, neighbors or acquaintances getting the promised returns, they become more motivated to invest. Lewis (2012) states that people tend to be reluctant to challenge or question people they trust. Offers from people closest to you, such as family or well-known friends, seem difficult to refuse because they tend to be believed to not lead to losses.

The internet is the easiest choice nowadays when someone needs information. However, individuals must be selective in filtering information obtained from the internet because the internet provides unlimited information from many sources that are not necessarily credible. Apart from that, social media is also an option for individuals today to search for the information they need. The internet and social media can change the way a person makes investment choices and decisions because they allow a person to have information overload making it difficult to differentiate between credible and manipulative information. The widespread use of the internet and social media means that investment ideas can spread like an epidemic among investors (Shiller 2014) and make fraudsters more sophisticated (Ma and McKinnon 2022).

People are exposed to content from public figures or influencers who offer investments on various social media, especially if they do not have the information or are lazy about looking for information about investment offers, it might be easier to decide to invest. Dupuis *et al.* (2023) stated that influencers on social media drive some people who do not have new information and technology and have high media visibility, creating an environment that supports the development of new fraud schemes. There are still many people who place funds in Ponzi scheme investments; perhaps they are fooled by the illusion of increasingly diverse ways of investing, so it is more difficult for people to recognize these investments as Ponzi.

Cox (2014) said that concerns about social inequality could drive the Fast Money Investment Scheme. Increasing costs and lifestyle demands are often not balanced with increasing income, causing individuals to look for alternative income in various ways, one of which is by taking advantage of investment opportunities offered by family, friends and even people they do not know well personally.

Badua (2020) stated that people participated in Ponzi because they only received minimal income and had high family needs. In this study, the majority of respondents had incomes in the range of IDR 3,000,000 – IDR 8,000,000 per month (around $186-$500 per month); this could indicate that the majority of respondents invested in Ponzi schemes because they wanted to increase their welfare. Satisfying family needs becomes one of a person's achievements, which then encourages them to join fast investment schemes as a solution to earn money quickly and easily (Badua 2020).

Ponzi scheme organizers usually display "initial credibility" to investors by providing returns in a timely and appropriate manner. This ensures that investors consider this investment credible. Investors who are happy to get high returns tend to tell other people about the success of this investment. Even these successful investors often display a luxurious lifestyle, which will attract more investors and make this investment more popular (Mohammed 2021).

3.5 Greed Moderates Risk Tolerance towards Individual Investment Decisions

The results of the interaction test of greed and risk tolerance do not act as a moderator of the influence of risk tolerance on investment decisions, with a p-value of 0.754. The test results show that greed does not strengthen the relationship between risk tolerance and individual decisions to invest in Ponzi schemes. Greed in investment is often associated with the "speed" of making money (Nataraj-Hansen 2024). In the case of a Ponzi scheme, greed can dominate the feelings of investors or potential investors when deciding to join or increase the amount of investment. However, this greed may be controlled by investors because they know that this investment carries high risks, so they have to make decisions quickly and correctly if they want to make money from this scheme. Ponzi scheme investors may realize that these investments will not last long depending on the ability of the organizers and/or existing investors to find and recruit new investors to keep the scheme going and have a long life.

The majority of respondents in this study have professions whose income depends on a fixed base salary and allowances. That may be related to how individuals can control their greedy nature due to the constraints of limited income and professions that depend on class or rank. Individuals who have large wealth or income encourage them to take more risks and can accept losses better than individuals with smaller incomes (Hinz, McCarthy, and Turner 1997). Even though they are driven to earn much money quickly, respondents control this desire because they realize that their fixed income is not only used for investment but must also be able to meet increasingly complex living needs, so they must carefully calculate investment offers so as not to reduce their financial ability.

The majority of respondents in this study were Generation Y and Generation Z, where both generations were aware of and even started planning for retirement from an early age. Generation Z is already thinking about retirement and influencing them in income and career planning. The generation so that you can live your retirement with enough money.

The younger generation in Indonesia tends to use money not only to meet personal needs but also for their parents and to build friendships. They also think that money is one of the factors that causes anxiety in life (Hinduan, Anggraeni, and Agia 2020). Generation Z also understands the importance of unexpected financial situations and overcomes challenges such as debt pressure, decreased quality of life and decreased pension funds in the future (Bado *et al.* 2023). The term sandwich generation can also influence individual behavior, where they must be able to manage limited finances to meet the needs of the generation upper and lower generations. If they make mistakes in managing their money, the impact will be greater. This fact may influence the younger generation in controlling their greed and desire to invest in Ponzi schemes because they realize that if the investment fails to produce much money, it will cause personal anxiety and disrupt the fulfilment of their personal and social needs.

3.6 Greed Moderates Social Networks on Individual Investment Decisions

The test results of the interaction variables of greed and social networks do not act as moderators of the influence of social networks on investment decisions, with a p-value of 0.838. The test results show that greed does not moderate the relationship between social networks and individual investment decisions. Cardella *et al.* (2019) conducted experiments on the effects of greed contagion in social interactions and found that there was no effect of greed contagion on a person's behavior. So, greed cannot always predict future behavior and is not always contagious; greed is just a norm of selfish behavior.

Generation Y and Generation Z are digitally literate generations who tend to use the internet and social media as their main sources of information. Individuals must be able to understand and interpret information logically and understand that information regarding investing in Ponzi schemes is mostly persuasive in order for them to join in. Even though greed often dominates the desire to make money quickly, individuals realize that nowadays, everyone can become a source of financial knowledge on various online media and social media, as if everyone is a financial expert. So, individuals must filter information well before making financial decisions.

The test results show that greed does not strengthen the influence of financial literacy on individual investment decisions. That may be because individuals with good financial literacy can carry out analysis when faced with certain investment offers. Individuals with good financial literacy will use their rationality to sort investment alternatives and will carry out due diligence before deciding to join. Greed is simply a desire to gain wealth that can be controlled by how someone can clearly use their knowledge and skills so that the decisions made can be maximized.

Khan *et al.* (2024) stated that the knowledge and skills that individuals gain while studying will last a lifetime and be useful in making sensible decisions. Good financial literacy does not necessarily make individuals blind and overconfident enough to accommodate their greedy nature, so it is not easy to accept Ponzi scheme investment offers. Individuals tend to be opportunists who take advantage of investment opportunities even though they know and understand that investing is a Ponzi scheme. They control their greed by understanding the right time to join and exit the investment.

Conclusions

The research proves that attitudes towards risk, as reflected in risk tolerance, are an important factor in considering investment decisions in Ponzi schemes. A risk-tolerant person is more likely to grab investment opportunities even though there is a lot of uncertainty or risk that must be faced. This study also showed that the diffusion of information from social networks also influences individual decisions to invest. Word-of-mouth carried out by social networks, whether shared face-to-face or via the internet and social media, has been proven to encourage people to participate in investing in Ponzi schemes that promise quick and easy wealth. Irrational exuberance or euphoria of investors who have succeeded in generating wealth will produce fantasies of wealth for other people. This successful investment experience activates other people's curiosity and leads to the decision-making process, namely seeking information about the story behind that success. In addition, communication can also encourage or provide approval for certain behaviors through verbal or indirect messages shared by other people. The abilities and skills possessed by individuals can increase self-confidence in decision-making. Greed does not strengthen the role of risk tolerance and social networks on individual investment decisions in Ponzi schemes. This finding explains that the direct influence of risk tolerance and social networks can increase individual investment decisions in Ponzi schemes. However, when interacting with greed, it is unable to increase individual investment decisions.

Acknowledgments

The authors would like to thank all parties who supported this research, which also helped the authors do much research. This research increased the authors' knowledge and skills, which will be helpful for knowledge and a better future.

Credit Authorship Contribution Statement

The authors equally contributed to the present research at all stages, from the problem formulation to the final findings and solutions.

Declaration of Competing Interest

The authors state that no competition for financial interests or personal relationships could influence the work reported in this paper.

Declaration of Use of Generative AI and AI-Assisted Technologies

The authors hereby declare that no generative artificial intelligence (AI) or AI-assisted technologies (including but not limited to ChatGPT, Bard, or any other large language models) were used in the preparation, drafting, editing, or submission of this manuscript. All content, including ideas, data interpretation, and language composition, is solely the result of the authors' original and independent work.

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References

[1] Anser, M. K., *et al.* (2020). Social Media Usage and Individuals' Intentions toward Adopting Bitcoin: The Role of the Theory of Planned Behavior and Perceived Risk. *International Journal of Communication Systems,* 33 (17). DOI: https://doi.org/10.1002/dac.4590

[2] Bado, B., Hasan, M. Tahir, T. and Hasbiah, S. (2023). How Do Financial Literacy, Financial Management Learning, Financial Attitudes and Financial Education in Families Affect Personal Financial Management in Generation Z? *International Journal of Professional Business Review,* 8 (5): 01–29.

[3] Badua, J. (2020). *The Nature and Victimization of Investment Frauds*. Northwestern University, Philippines.

[4] Baruah, M., and Parikh, A. K. k. (2018). Impact of Risk Tolerance and Demographic Factors on Financial Investment Decision. *GIS Business,* 13 (5): 31–40. DOI: https://doi.org/10.26643/gis.v13i5.3270

[5] Cardella, E., Kugler, T., Anderson, J. and Connolly, T. (2019). Is Greed Contagious? Four Experimental Studies. *Journal of Behavioral Decision Making,* 32 (5): 579–98. DOI: https://doi.org/10.1002/bdm.2134

[6] Chambers, C. D., and Tzavella, L. (2022). The Past, Present and Future of Registered Reports. *Nature Human Behaviour,* 6 (1): 29–42.

[7] Chimaobi, C., and Perpetua, N. (2020). Factors Influencing Undergraduates' Involvement in Ponzi Schemes in Tertiary Institutions in Anambra State, South-East, Nigeria. *Journal of Sociology Nnamdi Azikiwe University Awka,* 7 (1).

[8] Deane-Cox, S. (2014). "Retranslation."

[9] Dupuis, D., Smith, D. and Gleason, K. (2023). Old Frauds with a New Sauce: Digital Assets and Space Transition. *Journal of Financial Crime,* 30 (1): 205–20. DOI: https://doi.org/10.1108/JFC-11-2021-0242

[10] Fei, L., *et al.* (2021). The Profile of Ponzi Scheme Victims in China and the Characteristics of Their Decision-Making Process. *Deviant Behavior,* 42 (12): 1596–1609. DOI: 10.1080/01639625.2020.1768639

[11] Greenspan, S. (2009). Annals of Gullibility: Why We Get Duped and How to Avoid It. *Praeger Publishers*.

[12] Hair, J. F., *et al.* (2022). Predictive Model Assessment and Selection in Composite-Based Modeling Using PLS-SEM: Extensions and Guidelines for Using CVPAT. *European Journal of Marketing,* 57 (6): 1662–77.

[13] Hinduan, Z. R., Anggraeni, A. and Irfan Agia, M.I. (2020). Generation Z in Indonesia: The Self-Driven Digital. *The New Generation Z in Asia: Dynamics, Differences, Digitalization*, 121–34. DOI:https://doi.org/10.1108/978-1-80043-220-820201012

[14] Hinvest, N. S., Alsharman, M., Roell, M. and Fairchild, R. (2021). Do Emotions Benefit Investment Decisions? Anticipatory Emotion and Investment Decisions in Non-Professional Investors. *Frontiers in Psychology,* 12:705476.

[15] Hinz, R. P., McCarthy, D. D. and Turner, J. A. (1997). Are Women Conservative Investors? Gender Differences in Participant-Directed Pension Investments. *Positioning Pensions for the Twenty-First Century,* 91:103.

[16] Kaufman, B. E. (1999). Emotional Arousal as a Source of Bounded Rationality." *Journal of Economic Behavior & Organization,* 1 (38): 135–144.

[17] Kempe, D., Kleinberg, J. and Tardos, É. (2015). Maximizing the Spread of Influence through a Social Network. *Theory of Computing,* 11:105–47. DOI: https://doi.org/10.4086/toc.2015.v011a004

[18] Khababa, N., and Ahmadjonov, A. (2023). Investors Behaviour and Psychological Factors Impact on Saudi Arabia Stock Market Sustainability through Investment Decisions. *Cuadernos de Economía Www.Cude.Es,* 46 (132): 202–212.

[19] Khan, M. S., Azad, I., Moosa, S. and Javed, M.Y. (2024). Do We Really Need Financial Literacy to Access the Behavioral Dynamics of Generation Z? A Case of Oman. *Heliyon,* 10 (13). DOI:https://doi.org/10.1016/j.heliyon.2024.e32739

[20] Lerner, R. M., Lerner, J. V., Bowers, E. and Geldhof, G. J. (2015). Positive Youth Development and Relational-developmental-systems. *Handbook of Child Psychology and Developmental Science*, 1–45.

[21] Lewis, M. K. (2012). New Dogs, Old Tricks. Why Do Ponzi Schemes Succeed? *Accounting Forum,* 36 (4): 294–309. DOI: https://doi.org/10.1016/j.accfor.2011.11.002

[22] Lin, Q., and Lee, J. (2002). Consumers' Information Search When Making Investment Decisions: Vol. PhD Thesis. Issue University of Georgia.

[23] Loke, Y. J. (2017). Financial Vulnerability of Working Adults in Malaysia. *Contemporary Economics*, 11 (2): 205–18. DOI: https://doi.org/10.5709/ce.1897-9254.237

[24] Ma, K. W. F., and McKinnon, T. (2022). COVID-19 and Cyber Fraud: Emerging Threats during the Pandemic. *Journal of Financial Crime,* 29 (2): 433–46.

[25] Magessi, N. T., and Antunes, L. (2013). *Agent's Fear Monitors the Spread of Greed in a Social Network*.

[26] Mahmood, F., *et al.* (2024). Impact of Behavioral Biases on Investment Decisions and the Moderation Effect of Financial Literacy; an Evidence of Pakistan. *Acta Psychologica,* 247. DOI:https://doi.org/10.1016/j.actpsy.2024.104303

[27] Mohammed, U. (2021). Effect of Ponzi Schemes on a Country: The Case of Ghana. *Journal of Financial Crime,* 28 (3): 926–39. DOI: https://doi.org/10.1108/JFC-09-2020-0177

[28] Mussel, P., Reiter, A. M.F., Osinsky, R. and Hewig, J. (2015). State- and Trait-Greed, Its Impact on Risky Decision-Making and Underlying Neural Mechanisms. *Social Neuroscience,* 10 (2): 126–34. DOI:https://doi.org/10.1080/17470919.2014.965340

[29] Nataraj-Hansen, S. (2024). 'More Intelligent, Less Emotive and More Greedy': Hierarchies of Blame in Online Fraud. *International Journal of Law, Crime and Justice,* 76. DOI: https://doi.org/10.1016/j.ijlcj.2024.100652

[30] Nguyen, L., Gallery, G. and Newton, C. (2019). The Joint Influence of Financial Risk Perception and Risk Tolerance on Individual Investment Decision-Making. *Accounting and Finance,* 59 (S1): 747–71. DOI:https://doi.org/10.1111/acfi.12295

[31] Onoh, J. O., and Eze, G. P. (2018). Ponzi Schemes in Nigeria Demographic Assessment of Attitudes to Risk and the Role of Greed and Fear in the Market. *Journal of Business and African Economy,* 4 (1).

[32] Oppong, C., *et al.* (2023). Financial Literacy, Investment and Personal Financial Management Nexus: Empirical Evidence on Private Sector Employees. *Cogent Usiness & Management,* 10 (2): 2229106.

[33] Ostrovsky-Berman, E., and Litwin, H. (2019). Social Network and Financial Risk Tolerance among Investors Nearing and during Retirement. *Journal of Family and Economic Issues,* 40:237–49.

[34] Ouimet, P., and Tate, G. (2017). *Learning From Coworkers: Peer Effects on Individual Investment Decisions*.

[35] Quisenberry, W. L. (2017). Ponzi of All Ponzis: Critical Analysis of the Bernie Madoff Scheme. *International Journal of Econometrics and Financial Management,* 5 (1): 1–6.

[36] Rasool, N., and Ullah, S. (2020). Financial Literacy and Behavioural Biases of Individual Investors: Empirical Evidence of Pakistan Stock Exchange. *Journal of Economics, Finance and Administrative Science,* 25 (50): 261–78. DOI: https://doi.org/10.1108/JEFAS-03-2019-0031

[37] Sahi, S. K., Arora, A. P. and Dhameja, N. (2013). An Exploratory Inquiry into the Psychological Biases in Financial Investment Behavior. *Journal of Behavioral Finance,* 14 (2): 94–103.

[38] Schmidt, J. B., and Spreng, R. A. (1996). A Proposed Model of External Consumer Information Search. *Journal of the Academy of Marketing Science,* 24 (3): 246–56. DOI: 10.1177/0092070396243005

[39] Shiller, R. J. (2014). Speculative Asset Prices. *American Economic Review,* 104:1486–1517.

[40] Simon, B. H. A. (1952). A Behavior Model of Rational Choice. *Quarterly Journal of Economics Journal of Economics*, 99–118.

[41] Sobaih, A. E. E., and Elshaer, I. A. (2023). Risk-Taking, Financial Knowledge, and Risky Investment Intention: Expanding Theory of Planned Behavior Using a Moderating-Mediating Model. *Mathematics,* 11 (2): 453.

[42] Sutejo, B. S., *et al.* (2023). Do Emotions Influence the Investment Decisions of Generation Z Surabaya Investors in the Covid-19 Pandemic Era? Does Financial Risk Tolerance Play a Moderating Role? *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration,* 31 (2). DOI:https://doi.org/10.46585/sp31021755

[43] Tennant, D. (2011). Why Do People Risk Exposure to Ponzi Schemes? Econometric Evidence from Jamaica. *Journal of International Financial Markets, Institutions and Money,* 21 (3): 328–46. DOI:https://doi.org/10.1016/j.intfin.2010.11.003

[44] Trimpop, R. M. (1994). *The Psychology of Risk-Taking Behavior*. Elsevier.

[45] Ward, S. (1974). Consumer Socialization. *Journal of Consumer Research*, 1–14.

[46] Wilkins, A. M., Acuff, W. W. and Hermanson, D. R. (2012). Understanding a Ponzi Scheme: Victims' Perspectives. *Journal of Forensic & Investigative Accounting,* 4(1).

[47] OJK. (2023). Rapat Koordinasi Tim Kerja Satgas Waspada Investasi Daerah Provinsi Kalimantan Selatan Semester I Tahun 2023. (in Indonesian)

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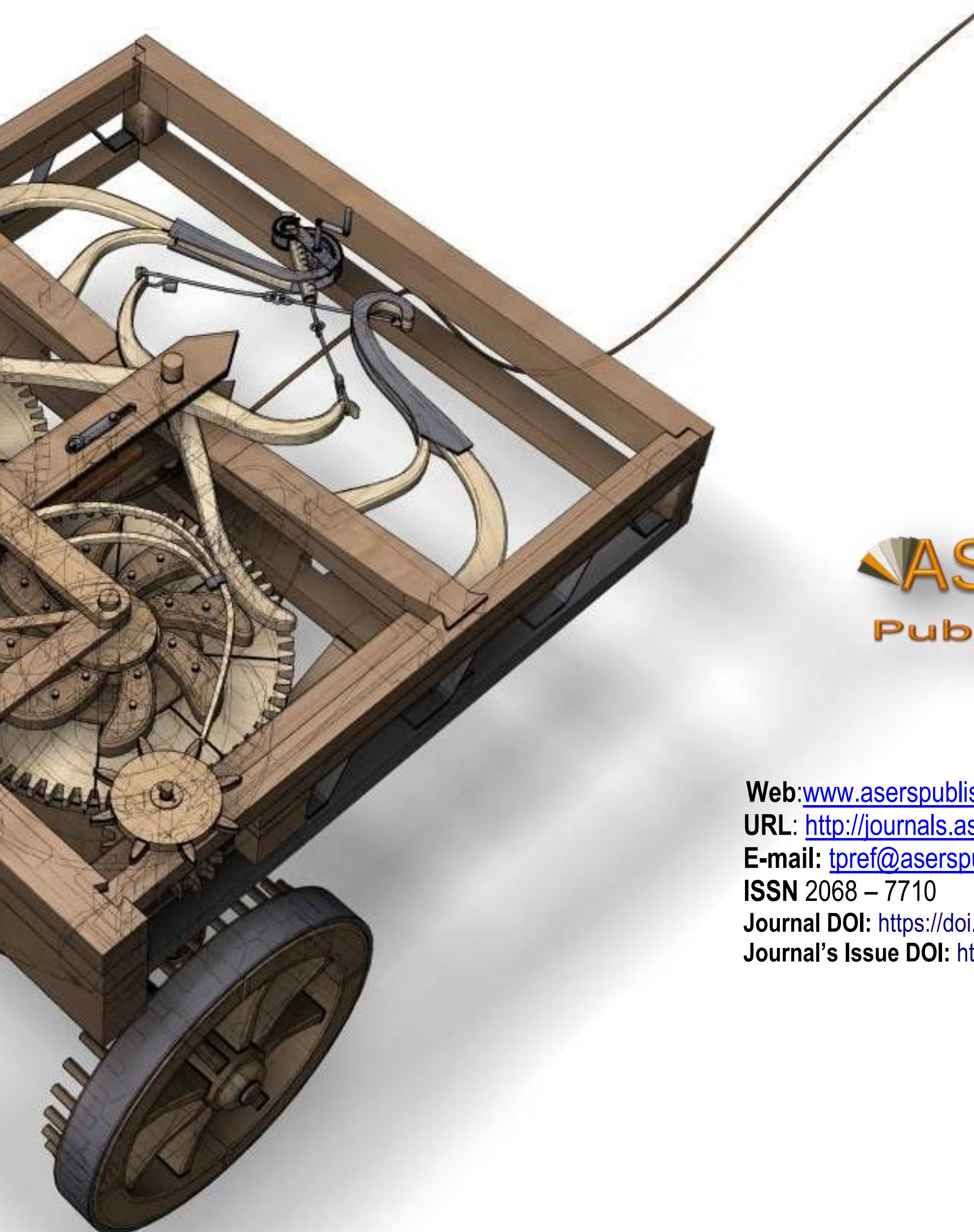

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