

LOSS AVERSION, RISK TOLERANCE AND INVESTMENT DECISION IN NIGERIAN STOCK MARKET: A STUDY OF SOUTH WEST RETAIL INVESTORS

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Abstract

This study examined the moderating effect of risk tolerance on the relationship between loss aversion and investment decisions among retail investors in the South West Nigerian stock market. A cross-sectional survey design was employed, using questionnaire items adapted from past studies. A sample of 538 investors was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via Smart PLS 4.0. The results reveal that both loss aversion and risk tolerance significantly influence investment decisions, with risk tolerance moderating the relationship between loss aversion and investment decision. Based on these findings, the study concludes that investors' decision-making is influenced by psychological factors, particularly risk tolerance and loss aversion. It is recommended that the Nigerian Stock Exchange (NSE), investment advisors, and capital market authorities organize investor education programs, including workshops and awareness campaigns, to address behavioral biases and improve investment decision-making.

Keywords: Loss Aversion, Risk Tolerance, Investment Decision.

Introduction

The capital market serves as a gauge for assessing the economic state of developed and developing nations. Policymakers place significant importance on a nation's stock market condition because its performance can either promote or hinder economic progress (Nwakoby, et al, 2021). The market's activity reflects the economic state of a country, as the economy and stock market performance are positively correlated (Ghalandari & Ghahremanpour, 2013).

The Nigerian Stock Market only reached an all-time high performance of N13.5 trillion in March 2008, but since then, the fortunes of Nigerian investors in the stock market have been steadily declining and equity culture in Nigeria has been noticed to be weak (Ogbebor, et al 2020). Nigerian Stock Exchange reports about investors in Nigerian stock market may be seen as an indicator that investors are not encouraged by their investment performance in the market. It has been noted that investors in Nigerian stock market recorded great losses between 2008 and 2021 and this poor investment performance has left them frustrated (Ekechukwu, 2022). Retail investors in Nigeria have become indifferent and have lost trust in the stock market. Since the burst of the market bubble in 2007-2008, they have chosen to step back from active participation (Alade et al., 2020; Ekechukwu et al., 2024). There have been decreasing involvements of individual investors in the Nigerian stock market. Over a span of sixteen (16) years, there was a 10.94% decrease in domestic transactions, falling from ₦3.556 trillion in 2007 to ₦3.167 trillion in 2023 (Nigeria Exchange Group, 2023). In February 2023, investors on the Nigerian Exchange Limited (NGX) stock market witnessed a loss of ₦162 billion as the market capitalization decreased from ₦30.401 trillion to ₦30.239 trillion. Similarly, in September 2023, investors experienced a decline in the value of their investments by ₦91 billion. At the beginning of September 2023, the All-Share Index (ASI) and equities market capitalization were at 66,548.99 points and ₦36.422 trillion respectively, but they dropped to 66,382.14 points and ₦36.331 trillion respectively (NGX, 2023).

Some scholars in the field of behavioural finance such as Shahid, et al (2018); Keswani, et al (2019); Bokhari, et al (2023) have opined that behavioural factors are likely reasons for investment decision that results to individual investor losses in stock market. Obayagboyna and Omoregbe (2023) argue that most of investors in the Nigerian stock market do not always follow the current trend of the market. This implies that the poor individual investment decision in stock market could be as a result of behavioral factors (Hamidon & Kehelwalatenna, 2020; Kumar & Nayak, 2019; Zain-ul-Abdin, 2017). According Nalurita, et al (2020) loss aversion has significant effect on investment decision while Ardini, Fatchan and Si (2023) found that loss aversion has no significant effect on investment decision. In light of the established inconsistencies in the findings of previous studies on the relationship between loss aversion and investment decision, there is a need to investigate the inconsistencies taking into consideration a variable that is likely to change the direction of the effect of these behavioural factors on investment decisions.

Studies have shown that there is a relationship between risk and the possible outcome of investment decision (Baruah & Parikh, 2019; Kanagasabai & Aggarwal, 2020; Masriani et al., 2021; Nyaboke Onsomu et al., 2017; Yulianis & Sulistyowati, 2021). According to Tamara, Aianto, Marzuki & Zulhamdani (2022), investment decisions are influenced by herding factor, risk tolerance.

The research conducted by Worzie (2020) showed that performance and decisions related to investment decisions are linked with the level of risk on an investment. According to Zain, Qureshi, Iqbal and Sultana (2022), the risk propensity of investors has significant and direct effect on the investment performance. Tariqul and Khan (2022) observed that risk-tolerant investors continue to invest to earn a higher expected return even though they experienced losses in their previous transaction in the stock market. Given these insights, risk tolerance can function as a moderating variable by influencing the extent to which loss aversion affects investment decisions. While loss-averse investors may be hesitant to engage in high-risk investments due to fear of losses, those with higher risk tolerance may be less affected by loss aversion, leading to a more rational investment decision-making process.

Previous studies on the relationship between loss aversion and investment decisions in the stock market have often overlooked the moderating role of risk tolerance. While extensive research examines loss aversion and investment decisions, few studies explore how risk tolerance moderates this relationship, especially in emerging markets. By analyzing whether risk tolerance moderates the effect of loss aversion on investment decisions, this study seeks to clarify mixed findings and provide insights into Nigerian investors' behavior.

Investment decision

Investment decision making refers to the thought process of selecting a choice from the available financial investment options (Wanyoike, 2016). Investment decision-making is a critical process that determines how investors allocate their financial resources among various assets to maximize returns while managing risks. Traditional finance theories assume that investors make rational choices based on risk-return trade-offs. However, emerging research in **behavioral finance (Kahneman & Tversky, 1979)** suggests that psychological biases, including loss aversion, significantly influence investment behavior. Investors make decisions with various objectives in mind and such objectives include: safety of principal amount, earning good returns, and high liquidity. An investment decision is a cognitive process undertaken by humans, wherein they select a course of action from a range of choices available within the financial market. Investment decisions encompass the choices made by investors regarding the type of investments they pursue and the allocation of their funds into potentially profitable investment avenues (Halim & Pamungkas, 2023). Investment in stock is one of the riskiest decisions in the global financial markets (Omokehinde & Olurin, 2020). Investment decision is very crucial and requires hard earned resources (Nwakoby et al., 2021). When making investing decisions, investors will constantly deal with a variety of risks and uncertain conditions. Investors' decision about their investment can be classified into three vis a vis decision to buy, decision to sell and decision to hold stocks (Hamidon & Kehelwalatenna, 2020).

Loss Aversion

Loss aversion, according to Pompeian (2006), is the propensity to choose avoiding losses over achieving comparable gains. Loss aversion is a fundamental concept in behavioral finance, first introduced by Kahneman and Tversky (1979) under Prospect Theory. It suggests that individuals experience the psychological effect of losses more intensely than equivalent gains. In financial decision-making, this bias leads to irrational investment behaviors, such as avoiding risks even when potential returns are favorable or holding onto losing investments for too long. Investors who experience loss aversion are more focused on preventing losses than generating profits. A person is more likely to develop loss aversion the more losses they experience. According to research on loss aversion, investors feel the pain of losing twice as strongly as they do the joy of winning. Humans naturally want to prevent loss, and this can be quite important when choosing an investment strategy. However, this prejudice may result in unreasonable behavior. This will have an impact on the decision to invest since investors hold investments to prevent losses when they should exit the market (Jan et al., 2021).

Risk tolerance

Risk tolerance essentially represents how willing an individual is to accept the possibility of not achieving certain less crucial objectives in exchange for the potential of not attaining more significant ones. Risk tolerance is a fundamental concept in investment decision-making that reflects an individual's willingness and ability to endure financial risk in pursuit of potential returns. In other words, it reflects a person's readiness to embrace added risk that could diminish their future wealth, which, in turn, might affect their ability to finance essential upcoming financial obligations. It refers to the extent to which someone can endure assuming financial risk (Davies & Brooks, 2013). Risk tolerance refers to an investor's ability and readiness to endure market fluctuations and potential losses while seeking profits. This is influenced by various factors, including an individual's financial goals, investment timeframe, experience, and psychological characteristics. Every investor has a unique amount of tolerance (Sorongan, 2022).

Loss aversion and investment decision

Kumar and Babu (2018) examined the influence of loss aversion on investment decision in India. Primary data were collected from a sample of sample of 150 investors with the aid of questionnaire. The data were analysis with the aid of SPSS software. The findings of the study showed that loss aversion has significant positive effect on investment decision. Current study will examine the moderating role of risk tolerance on the relationship between loss aversion and investment decision using larger sample size. Khan (2017) examined the impact of loss aversion and availability bias on investment decision in Pakistan. Data were collected through the use of questionnaire from a

sample of 207 investors randomly selected. The data were analysed using simple regression and correlation techniques. The finding of the study showed that loss aversion has positive significant effect on investment decision.

Kumari and Arora (2015) conducted a study on the relationship between risk taking ability, investment decision and demographic variables in India. The study examined how demographic variables (age and gender) affect the risk-taking ability of investors in their financial decisions through psychological factors such as loss aversion and regret. A total of 450 investors of two age groups (25-40 years) and (41-55 years) from northern part of India were examined for the study. The finding of the study showed that psychological biases (regret and loss aversion) mediate the effect of demographic factors (age and gender). The findings further showed that loss aversion and regret play a moderating role in the relationship between the demographic factors (age and gender) and risk-taking ability of the investors.

Gupta and Shrivastava (2022) carried a study on the relationship between herding, loss aversion and fear of missing out (FOMO) in Indian stock market. The study used a questionnaire survey to gather information from 323 retail stock market investors in India. The data were analyzed using factor analysis and partial least square structural equation modeling. The findings showed that loss aversion, herd behavior, and FOMO have significant impact on the investing choices made by retail investors. Current study examined the moderating role of risk tolerance in the relationship between loss aversion and investment decision.

Risk tolerance and Investment decision

Kanagasabai and Aggarwal (2020) examined the mediating role of risk tolerance in the relationship between financial literacy and investment in India. Primary data was collected through a standardized questionnaire administered to 203 individual investors in Chennai, India. The findings reveal a substantial positive correlation between financial literacy and investment performance, with the level of risk tolerance playing a partial mediating role in this connection. Current study examined the moderating role of risk tolerance in the relationship between behavioural factors and investment decision. Nguyen *et al.*, (2016) examined the influence of risk tolerance with a focus on the key expected risk tolerance determinants: client overconfidence bias, trust in the financial advice service, and relationship length with the service. Results revealed a positive relationship between client risk tolerance and investment decision-making. Similar finding was reported in the study by Septi *et al.* (2019) who examined the effect of risk perception, risk tolerance, overconfidence, and loss aversion on investment decision. Primary data was collected from 400 investors through questionnaire through the survey method in Surabaya and Jombang, East Java. The analysis technique employed in this study was PLS-SEM, which stands for Partial Least Squares-Structural Equation Model. The results

showed that risk tolerance and overconfidence have a significant and positive effect on investment decision making.

Sivasankaran and Selvakrishnan (2023) studied how spouses and family members, along with financial advisors, impact the risk tolerance and investment decision of women employed in the IT industry in Chennai city. The study gathered primary data using a structured questionnaire administered to 604 women. 442 individuals were deemed appropriate for the study and subsequently analyzed using SPSS. The findings indicated that financial advisors play a crucial role in ensuring reliable and secure investments, particularly concerning risk tolerance and investment choices among women. The study is limited to women investors who worked in information technology sector, hence the study cannot be generalized to all category of investors.

Ferli, Ambarwati & Mutiarat (2022) examined how financial literacy, investment experience, and risk tolerance impact the investment decisions of students who are part of the Investment Gallery in Jakarta Selatan. Primary data were collected through the use of structure questionnaire A total of 101 samples were included in the study. The findings indicate that risk tolerance has significant effect on investment decisions. The study is only limited to students who are investors hence the study cannot be generalized to all categories of investors. Current study also examined the moderating role of risk tolerance in the relationship between over confidence and investment decision.

Ravikumar et al. (2024) examined the factors that influence investors' risk tolerance and how these attitudes influence their decisions in the stock market. The finding of the study showed that risk tolerance has significant effect on investment decision. The study used small sample size. The convenience sampling may introduce bias into the sample, as it may not represent the entire population accurately. Praba (2016) examined investors' risk tolerance and assess how socio-demographic factors, including age, gender, marital status, family type, life cycle stage, and income, influence their risk profile. The research employed a multi-stage random sampling technique, selecting 405 samples for the study. The research findings revealed that a mere 15% of investors exhibited a high level of risk tolerance, while 31% fell into the above-average risk category. In contrast, the majority of retail investors, comprising 45% of the total, were classified as having an average level of risk tolerance. The research indicates that age does not have a notable correlation with the risk profile of retail investors. However, there is a significant relationship between gender and the risk tolerance profile of these investors. The analysis further demonstrates that out of the six socio-demographic factors studied, including age, gender, and income, only age, gender, and income show a significant association with the financial risk tolerance of individual investors.

Theoretical framework

Prospect Theory

Kahneman and Tversky first put forth the Prospect theory in 1979, and Daniel Kahneman later won the Economics Nobel Prize for it. Tversky and Kahneman's development of the prospect theory illustrated how people respond to risk and uncertainty. The theory explains why people seem to behave inconsistently when estimating risk when presented with ambiguity (Subash 2012). People place a lot more weight on outcomes that are perceived as more certain than those that are merely possible, which is known as the "certainty effect" (Kahneman & Tversky, 1979).

This theory posits that individuals exhibit a pronounced inclination to take risks in pursuit of gains. Conversely, when facing potential losses, their willingness to engage in risk-taking diminishes. Thus, the theory sheds light on the diverse behaviors of individuals across various situations, with uncertainty being a notable circumstance. The theory is a prime example of a behavioral economic theory, according to Thaler (2000), because it combines a number of significant psychological aspects with the theoretical foundations of finance. The idea explains how individuals frame and assess a choice in the face of uncertainty. By maintaining a reference point, the investors initially interpret their decisions in terms of prospective gains and losses.

Prospect Theory, developed by Kahneman and Tversky (1979), provides a behavioral framework for understanding how investors make decisions under uncertainty. The theory posits that individuals evaluate potential losses and gains relative to a reference point rather than considering absolute outcomes. A key principle of Prospect Theory is loss aversion, which suggests that investors tend to experience the pain of losses more intensely than the pleasure of equivalent gains. This psychological bias often leads to suboptimal investment decisions, as individuals may avoid risks that could yield long-term benefits due to the fear of immediate losses (Barberis, 2013; Waweru et al., 2008).

In the context of investment decision-making, Prospect Theory explains why some investors exhibit conservative behavior, even in situations where taking on moderate risk could result in higher returns. Empirical studies (e.g., Tversky & Kahneman, 1992; Thaler, 2015) have demonstrated that loss-averse investors may hesitate to invest in volatile markets, preferring safer but lower-yielding investments

Methodology

Cross-sectional research design was used for this study. The study population comprised all retail investors in Southwest Nigeria. The investors are dispersed throughout Nigeria and are innumerable (infinite). Because it is unknown how many individual investors there are in Nigeria, the study's population is assumed to be limitless. The study population for this research consists of all

investors in South West Nigeria. Currently, there are about three million investors in the Nigerian capital market (Chiemeka, 2019). To measure the study's variables, scales were adapted. This research modified seven items from to gauge loss aversion. Li, Chai, Nordstrom, and Tangpong, (2021), Five items were used to measure risk tolerance, which were adapted from Grable and Joo (2004) and four items were adapted from (Natasya et al., 2022) to measure investment decision. The study employed partial least square structural equation modelling through SMartPls 4.0.

The study provided participants with google link for their responses. The researcher only provided a timeline of December 2023 to March 2024 within which investors were to fill and submit the survey. This timeline is sufficient to generate sufficient responses to be employed in the analysis. The sample size is computed using sample size determination formula by Cochran (1977) where the population is greater than 50,000 and is given as follows:

$$n = \frac{Z^2 \times (p) \times (1-p)}{C^2}$$

Where: n is the sample size,

Z= Confidence level at 1.96 for 95% confidence level

P = Percentage of population picking a choice, expressed as decimal (0.5 used for sample size needed)

C = the error limit (0.05 on the basis of 95% confidence level)

Therefore, $n = \frac{1.96^2 \times (0.5) \times (1-0.5)}{0.05^2} = 384$

Based on the calculation, the sample size of 384 investors was obtained for this study. However, due to the constant nature of low response rate in survey studies, it is quite important for any researcher to take all necessary measures to mitigate non-response rate as much as possible, in order to deal with the possibility of non-response error that often render research invalid (Groves, 2006). Thus, in order to reduce the non-response rate, the present study adhered to the Salkind's view (1997) for adjusting sample size, which is commonly used in survey research (Bartlett, Kotrlik & Higgins 2001). This view suggested that a sample size could be increased by 40 percent to 50 percent in order to cover off the possibility of lost questionnaire and uncooperative subjects. Hence, in the present study the number of sample size was increased by 40 percent. A total number of 538 copies (140% of 384) of the questionnaire were distributed.

After the expiration of the time, 420 responses were recorded resulting in 118 shortages. It was also discovered that three of those responses were invalid as they were submitted without filling.

The study coded the returned questionnaires into SPSS using abbreviation of the construct and subjected the data to preliminary analysis, for which missing values, outliers and normality test were assessed. Three 3 missing values were discovered and replaced using serial mean, no case of outlier and the normality bench mark was met. Afterwards, the study proceeds to major analysis using partial least square structural equation modelling version

Participants in the study were given a Google link to submit their answers. The investors were given a timeframe of December 2023 to March 2024 by the researcher to complete and submit the survey. This amount of time will produce enough responses to be used in the study. Following the time limit, 420 answers were noted, leading to 118 shortfalls. Additionally, it was found that three of those responses were incomplete when they were submitted. After employing the construct abbreviation to code the returned surveys into SPSS, the study conducted a preliminary analysis of the data to evaluate missing values, outliers, and the normalcy test. Three 4 missing values were discovered and replaced using serial mean, no case of outlier and the normality bench mark was met. Afterwards, the study proceeds to major analysis using partial least square structural equation modeling version

Results and Discussion

Measurement model

The study assessed the loading, validity and reliabilities of all the constructs of the study. The average variance extracted (AVE) was used to measure the convergent validity of the constructs of the study, whereas Fornel Lacker criterion, HTMT and cross-loadings were employed for discriminant validity. To determine the internal consistency reliability and validity of all the constructs of this study and composite reliability (CR) was used.

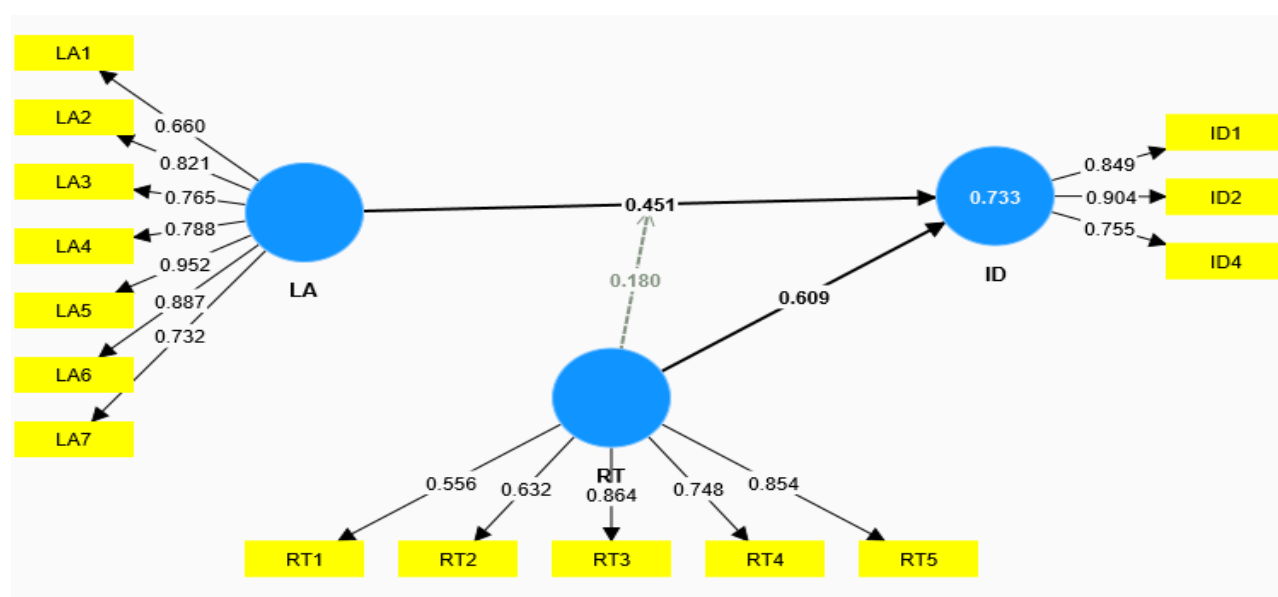


Figure 1: Measurement model

Table 1 showed the construct reliability and validity. All items measuring the various construct of the study loaded above 0.5 which is the minimum loading recommended by Hair, Black, Babin, Anderson and Tatham (2013).

Table 1: Loadings, construct reliability and convergent validity

Construct	Item	Loadings	CR	AVE
Investment decision	ID1	0.849	0.876	0.702
	ID2	0.904		
	ID4	0.755		
Loss aversion	LA1	0.660	0.927	0.649
	LA2	0.821		
	LA3	0.765		
	LA4	0.788		
	LA5	0.952		
	LA6	0.887		
	LA7	0.732		
Risk tolerance	RT1	0.556	0.856	0.549
	RT2	0.632		
	RT3	0.864		
	RT4	0.748		
	RT5	0.854		

Note: CR=Composite reliability, AVE=Average variance extracted

From the table 1, All the constructs in the study met the composite reliability benchmark of .7 and average variance extracted of 0.5. Item ID3 of investment decision was lost for loading below 0.5. Also, for discriminant validity the study utilized the Fornell and larker criterion which states that the square root of AVE must be greater than the correlation with other variable in the study. This is as presented in table 2 below

Table 2: Discriminant Validity

Construct	ID	RT	LA
ID	0.838		
RT	0.755	0.741	
LA	0.593	0.318	0.806

Source: Author's computation 2025

The square roots of AVE are presented in bolded font on the diagonal and it can be observed that the values are greater than the correlations among the constructs, thus this criterion is satisfied.

Structural model (Inner model)

The structural model or inner model is the second part of the PLS-SEM. Hair et' al. (2013) identified four key criteria for assessing the structural model in PLSSEM. These include assessments of significance of the path coefficients, coefficient of determination (R^2), the effect size (f^2), and lastly (4) predictive relevance (Q^2). However, to ascertain the moderating effect risk tolerance on the relationship between loss aversion and investment decision, it is important to carry out a bootstrapping analysis. Bootstrapping was done by using 5000 subsamples using 420 cases. Figure 4.1 presented the structural model of the direct effects.

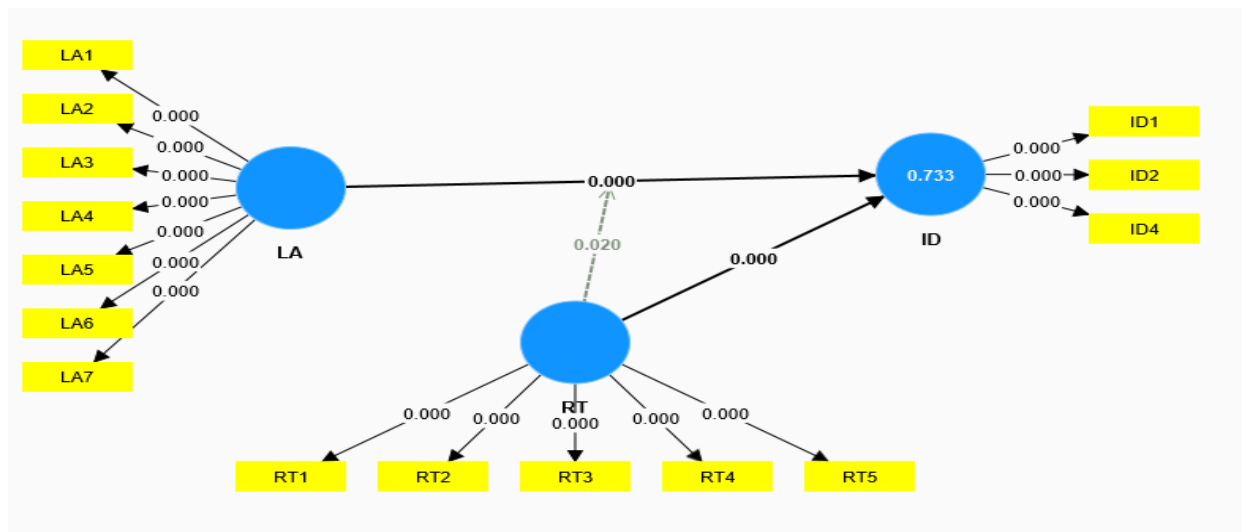


Figure 2: Structural model

Assessment of Path coefficient and structural model

On this section, the study tested for all the three hypotheses and table 3 presented the results of the structural model with the beta value of the relationships, t-statistic and p-value.

Table 3: Path coefficients

Hyp	Relationship	Beta	Std Error	T-value	p-value	Decision
H1	LA->ID	-0.451	0.047	9.562	0.000	Rejected
H2	RT->ID	0.609	0.045	13.558	0.008	Rejected
H3	RTxLA->ID	0.180	0.077	2.335	0.020	Rejected
R square						0.733

Source: Author's computation 2025

Three hypotheses were formulated for testing, they were tested using the path coefficients from the structural model. From Table 3, it can be seen that loss aversion has a positive and significant effect on investment decision ($\beta = -0.451$, $t\text{-value} = 9.562$, $p\text{-value} = 0.000$). With this result, the first hypothesis (H_1), loss aversion does not significantly affect investment decision is rejected. Similarly, risk tolerance has significant effect on investment decision ($\beta = 0.609$, $t\text{-value} = 13.558$, $P\text{-value} = 0.008$), the study rejected the second hypothesis. Finally, it was discovered that risk tolerance significantly moderates the relationship between loss aversion and investment decision ($\beta = 0.180$, $t\text{-value} = 2.335$, $p\text{-value} = 0.020$). Consequently, the study reject the third hypothesis of the study.

The R square stood at 0.733 which implies that 73.3% variation in the dependent variable is explained by loss aversion, risk tolerance and the interaction of LA and RT. The remaining 26.7% is explained by variables not captured in this model

Effect size and Predictive relevance

The effect size of the model is presented in the table 4. The study assessed the effect size of the exogenous variables (loss aversion and risk tolerance) on endogenous variable (investment decision) using the F^2 . Cohen (1988) recommended that f^2 values of 0.02, 0.15, and 0.35, to represents small, medium, and large effects respectively.

Table 4: Effect size (f^2)

Construct	F square	Effect size
LA	0.605	Large
RT	0.862	Large
LA x RT	0.089	Small
Q²	0.234	

Source: Author's computation 2025

From table 4, loss aversion and risk tolerance had large effect on investment decision. The study also utilized Q^2 to assess the predictive relevance of the exogenous variables on the endogenous variable. Q^2 shows how well the data collected empirically can be reconstructed with the help of model and the PLS parameters. From Table 4.4, it is seen that the Q^2 values of investment decision is 0.234. This value is greater than 0. This also means that all the exogenous variables have 23.4 relevance in predicting investment decision.

Discussion of findings

The findings from this study is consistent with Armansyah (2021), who noted that in some high-growth markets, the focus on avoiding losses may lead to disproportionately conservative investment behavior, resulting in negative effects on decision-making and financial outcomes.

The study contradicts the findings of Kumar and Babu (2018), Khan (2017), Kumari and Arora (2015), Gupta and Shrivastava (2022), Saputra, Natassia and Utami (2020). The study contradicts the findings of Armansyah (2021). One plausible explanation for the negatively significant impact of loss aversion in South West Nigeria lies in the contextual factors of the region's economy and stock market. Although the region has shown growth potential, the persistence of macroeconomic instability and uncertainty may heighten investors' sensitivity to potential losses. This heightened fear of losing may outweigh optimism for potential gains, reinforcing conservative investment behaviors.

Risk tolerance was discovered to have significant positive effect on investment decision. The results of this study are in accordance with the research conducted by Adielyani and Mawardi (2020), Jain and Kesari (2020) and Aini and Lutfi (2019) and Praba (2016), the study contradicts the finding of (Kusumaningrum et al., 2019) who employed mostly students as respondents to their survey and this may be the reason for such contradiction. Prospect Theory as developed by Daniel Kahneman and Amos Tversky explains how people make decisions involving risk and uncertainty, emphasizing that people value gains and losses differently. Investors with higher risk tolerance might construct more diversified portfolios that include higher-risk assets, potentially leading to higher returns.

Drawing from the results of the PLS-SEM analysis, the negative impact of loss aversion on investment decisions is significantly moderated by risk tolerance. Specifically, investors with higher risk tolerance are less influenced by loss aversion and tend to make more rational investment decisions. This suggests that risk tolerance acts as a psychological buffer against the fear of losses, enabling better decision-making. The findings underscore the critical role of individual risk tolerance in investment decision-making, as it serves as a psychological buffer against the fear of losses.

Conclusion and Recommendations

The purpose of this study was to examine the moderating effect of risk tolerance on the relationships between loss aversion and investment decision. Based on the findings, which indicate that loss aversion negatively impacts investment decisions, while risk tolerance positively influences investment decision, and significantly moderates the relationship between loss aversion and investment decisions, it is recommended that financial advisors and policymakers in Southwest Nigeria design strategies to mitigate the adverse effects of loss aversion while fostering greater risk tolerance among retail investors. Given that investors with higher risk tolerance are less deterred by

loss aversion, targeted financial literacy programs should be implemented to help investors manage their fear of losses and make more rational investment decision. Additionally, advisory services should be tailored to assess individual risk tolerance levels, ensuring that investors make decisions aligned with their financial goals rather than being driven by emotional biases.

References

- Adielyani, D., & Mawardi, W. (2020). The Influence of Overconfidence, Herding Behavior, and Risk Tolerance on Stock Investment Decisions: The Empirical Study of Millennial Investors in Semarang City. *Jurnal Maksipreneur: Manajemen, Koperasi, Dan Entrepreneurship*, 10(1), 89. <https://doi.org/10.30588/jmp.v10i1.691>
- Alade, M. E., Adeussi, S. A., & Alade, F. O. (2020). Covid-19 Pandemic and Nigerian Stock Market Capitalization. *Ilorin Journal of Economic Policy*, 7(3), 12–23.
- Ardini, F., Achyani, F., & Si, M. (2023). The Influence of Overconfidence, Regret Aversion, Loss Aversion, and Herding Behavior on Investment Decision in the Capital Market With the Moderating Role of Risk Perception in Generation Z Students. *International Journal of Social Science & Economic Research*, 08(05), 936–950. <https://doi.org/10.46609/ijsser.2023.v08i05.001>
- Armansyah, R. F. (2021). Over Confidence, Mental Accounting, and Loss Aversion In Investment Decision. *Journal of Auditing, Finance, and Forensic Accounting*, 9(1), 44–53. <https://doi.org/10.21107/jaffa.v9i1.10523>
- Baruah, M., & Parikh, A. K. (2019). Impact of Risk Tolerance and Demographic Factors on Financial Investment Decision. *Journal of Accounting and Management*, 4(3).
- Baruah, M., & Parikh, A. K. kumar. (2018). Impact of Risk Tolerance and Demographic Factors on Financial Investment Decision. *GIS Business*, 13(5), 31–40. <https://doi.org/10.26643/gis.v13i5.3270>
- Bokhari, U., Sulehri, F. A., Hassan, N. ul, & Aziz, B. (2023). Impact of Allied Factors on Investment Performance, Mediating Role of Investment Decision: Evidence from Investors in Lahore. *Journal of Education and Social Studies*, 4(1), 27–46. <https://doi.org/10.52223/jess.20234103>
- Davies, G., & Brooks, P. (2013). Risk tolerance: Essential, behavioural and misunderstood. *Journal of Risk Management in Financial Institutions*, 7(2), 110–113.
- Ekechukwu, I. V. (2022). COVID-19 Stock Market Experiences and Local Investors ' Investment Decisions in Lagos , Nigeria : A Pilot Study. *Research Square*, 1–18.
- Ekechukwu, I. V., Uzoh, B. C., Adejoh, O. S., Dinne, C. E., & Nwogu, J. (2024). Covid-19 Stock Market Experiences and Local Investors Investment Decision in Lagos, Nigeria: A pilot Study. *Nigerian Journal of Social Problems and Social Policy Review*, 4(1), 39–55.
- Ferli, O., Ambarwati, C. T., & Mutiara, M. (2022). Investment Experience And Risk Tolerance Affect Investment Decision During Pan-demi Covid 19 in Indonesia (Case Study of Investment

Gallery Students in South Ja-karta). *Jurnal Ilmu Manajemen & Ekonomika*, 14(2), 67. <https://doi.org/10.35384/jime.v14i2.276>

Ghalandari, K., & Ghahremanpour, J. (2013). The Effect of Market Variables and Herding Effect on Investment Decision as Factor Influencing Investment Performance in Iran. *Journal of Basic and Applied Scientific Research*, 3(3), 313–318.

Gupta, S., & Shrivastava, M. (2022). Herding and loss aversion in stock markets: mediating role of fear of missing out (FOMO) in retail investors. *International Journal of Emerging Markets*, 17(7), 1720–1737. <https://doi.org/10.1108/IJOEM-08-2020-0933>

Halim, R., & Pamungkas, S. A. (2023). The Influence of Risk Perception , Overconfidence , and Herding Behavior on Investment Decision. *International Journal of Application on Economics and Business (IJAEB)*, 1(1), 521–529.

Hamidon, T., & Kehelwalatenna, S. (2020). The Influence of Behavioural Finance Factors and the Moderating Effects of Contextual and Demographic Factors on Individual Investor's Investment Performance. *Accounting and Finance Research*, 9(3), 101. <https://doi.org/10.5430/afr.v9n3p101>

Haritha, P. (2020). The impact of Heuristics on investment performance : The mediating roles of investor sentiment. *11th International Confernce on Modern Research in Management, Economics and Accounting, Fromlet*, 1–18.

Ibrahim, U. A., & Umar, F. F. (2017). nvestigating the Effects of Behavioral Factors on Investment Performance in Nigerian Capital Market. *Nile Journal of Business and Economics*, 7(3), 65–82. <https://doi.org/10.20321/nilejbe.v3i6.xxx>

Jain, N., & Kesari, B. (2020). *An Empirical Analysis of Investor Behavioral Biases , Investment Risk Tolerance and Decision-Making. February*. <https://doi.org/10.26643/gis.v15i2.18897>

Jan, N., Adil, M., Sapna, D., & Haroon, U. (2021). Role of Behavioural Finance in Individual Investor Investment Decision in the Financial Market. *Competitive Social Science Research Journal (CSSRJ)*, 2(3), 63–72.

Kanagasabai, B., & Aggarwal, V. (2020). The Mediating Role of Risk Tolerance in the Relationship between Financial Literacy and Investment Performance. *Colombo Business Journal*, 11(1), 83–104.

Khan, M. T. I. (2022). Prior perceived losses and investment objectives after stock market crisis: a moderated-mediation model of risk tolerance and loss aversion. *SN Business & Economics*, 2(7), 1–22. <https://doi.org/10.1007/s43546-022-00259-6>

Khan, M. Z. U. (2017). Impact of Availability Bias and Loss Aversion Bias on Investment Decision Making, Moderating Role of Risk Perception. *IMPACT: Journal of Modern Developments in General Management & Administration (IMPACT: JMDGMA)*, 1(1), 17–28. [http://www.impactjournals.us/download/archives/1-82-1502108083-3.man-Impact of Availability Bias and Loss Aversion Bias on Investment Decision Making.pdf](http://www.impactjournals.us/download/archives/1-82-1502108083-3.man-Impact%20of%20Availability%20Bias%20and%20Loss%20Aversion%20Bias%20on%20Investment%20Decision%20Making.pdf)

Khan, U. (2017). Impact of Avialability bias and loss Aversion on Investement Decision Making, Moderating Role of Risk Percception. *Journal of Modern Developments in General Management & Administration*, 1(1), 17–28.

- Kiprotich Tuwei, J., & Jemutai Barno, L. (2020). Effect of Prospecting Bias on Investment Decision Making among Small and Medium Enterprise in Nairobi County. *Journal of Business Management and Economic Research*, 4(3), 253–266. <https://doi.org/10.29226/tr1001.2020.204>
- Kumar, A., & Babu, M. (2018). Effect Of Loss Aversion Bias On Investment Decision: A Study. *Journal of Emerging Technologies and Innovative Research*, 5(11), 71–76.
- Kumar, Y., & Nayak, R. (2019). Role of Behavioral Factors in Share Market Investment Decision Making. *International Journal of Innovative Technology and Exploring Engineering*, 8(12S2), 786–796. <https://doi.org/10.35940/ijitee.l1135.10812s219>
- Kumari, S., & Arora, M. (2015). Risk Taking in Financial Decisions as a Function of Age, Gender: Mediating Role of Loss Aversion and Regret. *International Journal of Applied Psychology*, 5(4), 83–89. <https://doi.org/10.5923/j.ijap.20150504.01>
- Kuria, A. M., Riro, G. K., & Ndung, D. (2018). Effect of prospect based behavior biases on the performance of real estate investments in Kenya. *International Journal of Multidisciplinary Research and Development*, 5(4), 218–221.
- Kusumaningrum, T. M., Isbanah, Y., & Paramita, R. A. S. (2019). Factors Affecting Investment Decisions: Studies on Young Investors. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 9(3). <https://doi.org/10.6007/ijarafms/v9-i3/6321>
- Leon, F. M. (2019). Factors Affecting Financial Risk Tolerance on Young Investors in Indonesia. *Indonesian Management and Accounting Research*, 18(01).
- Li, J., Chai, L., Nordstrom, O., & Tangpong, C. (2021). Development of a Loss Aversion Scale. *Journal of Managerial Issues*, 33(1).
- Lin, H. (2012). How Herding Bias could be derived from Individual Investor Types and Risk Tolerance ? *International Scholarly and Scientific Research & Innovation*, 6(6), 1395–1400.
- Mahina, J. N., Muturi, W. M., & Memba, F. S. (2017). Effect of Behavioural Biases on Investments at the Rwanda Stock Exchange. *International Journal of Social Sciences and Information Technology, III(Iii)*, 1917–1933.
- Mahmood, T., Ayyub, R. M., Imran, M., Naeem, S., & Abbas, W. (2020). the Behavioral Analysis and Financial Performance of Individual Investors At Pakistan Stock Exchange. *International Journal of Economics and Financial Issues*, 10(5), 158–164. <https://doi.org/10.32479/ijefi.10112>
- Masriani, H., Habbe, A. H., & Said, D. (2021). The Effect of Self Monitoring in the Relationship Between Financial Literacy , Herding , and Risk Tolerance with Investment Decisions (Study During the Covid-19 Pandemic). *International Journal of Innovative Science and Research Technology*, 6(10), 956–962.
- Mohammadi, N., & Soroushyar, A. (2021). The Effect of Financial Literacy on Investors ' Financial Risk Tolerance. *Iranian Journal of Accounting, Auditing & Finance*, 5(3), 25–34. <https://doi.org/10.22067/ijaaf.2021.40496>

- Nalurita, F., Leon, F. M., & Hady, H. (2020). Factor Influencing Investor's Decision Making in Indonesia: Moderating the Role of Locus of Control. *International Journal of Business and Applied Social Science*, 49–56. <https://doi.org/10.33642/ijbass.v6n4p6>
- Natasya, N., Kusumastuti, D. H., Alifia, W., & Leon, F. M. (2022). The Effect Between Behavioral Biases and Investment Decisions Moderated by Financial Literacy on the Millennial Generation in Jakarta. *The Accounting Journal of Binaniaga*, 7(1), 113–126. <https://doi.org/10.33062/ajb.v7i1.502>
- Nguyen, L., Gallery, G., & Newton, C. (2016). The Influence of Financial Risk Tolerance on Investment Decision- Making in a Financial Advice Context The Influence of Financial Risk Tolerance on Investment Decision-Making in a. *Australasian Accounting, Business and Finance Journal*, 10(3), 3–22. <https://doi.org/10.14453/aabfj.v10i3.2>
- Nyaboke Onsomu, Z., Kaijage, E., Aduda, K. J., & Iraya, K. C. (2017). Risk Tolerance, Demographics and Portfolio Performance. In *Journal of Business & Economic Policy* (Vol. 4, Issue 3). www.jbepnet.com
- Obayagboyna, J., & Omoregbe, O. (2023). Test of Behavioural Finance Factors in the Nigerian Capital Market. *Journal of Academic Research in Economics*, 14(2), 306–335.
- Ogalo, H. S. (2019). Examining the Impact of Risk Tolerance and Risk Aversion on the Individual Financial Performance in the Kingdom of Bahrain. *Asian Journal of Empirical Research*, 9(1), 16–26. <https://doi.org/10.18488/journal.1007/2019.9.1/1007.1.16.26>
- Pak, O., & Mahmood, M. (2015). Impact of personality on risk tolerance and investment A study on potential investors of Kazakhstan. *International Journal of Commerce and Management*, 25(4). <https://doi.org/10.1108/IJCoMA-01-2013-0002>
- Praba, S. (2016). Financial Risk Tolerance and the influence of Socio-demographic Characteristics of Retail Investors. *ISBR Management Journal Financial*, 1(May).
- Rajeshwaran, N. (2020). The Impact of Behavioural Factors on Investment Decision Making and Performance of CSE Investors in Eastern Province of Sri Lanka. *Sri Lanka Journal of Economic Research*, 8(1), 27–51.
- Ravikumar, K., Chandrasekaran, S., Loganayagi, S., & Santhi, K. (2024). Impact on the Risk Attitude of Investors Towards Stock Market Investment. In *3rd International Conference on Reinventing Business Practices, Start-Ups and Sustainability (ICRBSS 2023)* (Pp. 437-447). Atlantis Press, Icrbss 2023, 437–447. https://doi.org/10.2991/978-94-6463-374-0_38
- Rushdi, N. J., & Sushma. (2019). Establishing AN Association between Risk Tolerance and Behavioral Biases among Indian Investors. *International Journal of Engineering and Advanced Technology*, 9(2), 1378–1382. <https://doi.org/10.35940/ijeat.b2637.129219>
- Said, R., Laba, A. R., Hamid, N., & Nohong, M. (2020). Determinant of Investor Behavior of Investment Decisions In Makassar College Student Investors. *American International Journal of Business Management (AIJBM) ISSN*, 3(6), 40–48.
- Saputra, S. E., Natassia, R., & Utami, H. Y. (2020). The Effect of Religiosity Moderation with Loss Aversion on the Investment Decision of Personal Investors Kind of Stock Security in Padang

City. *AMAR (Andalas Management Review)*, 4(1), 40–55.
<https://doi.org/10.25077/amar.4.1.40-55.2020>

- Septi, N., Ainia, N., & Lutfi, L. (2019). The influence of risk perception , risk tolerance , overconfidence , and loss aversion towards investment decision making. *Journal of Economics, Business, and Accountancy Ventura*, 21(3), 401–413.
- Sharma, A. (2019). Influence of Behavioural Bias on Investment. *Journal of Public Administration, Finance and Law*, 16, 117–126.
- Sivasankaran, R., & Selvakrishnan, A. (2023). Family Demographics Sway With a Role of Financial Advisor in Risk Tolerance and Investment Decision of Women Working in It Sector, Chennai. *International Journal of Professional Business Review*, 8(1), 1–13.
<https://doi.org/10.26668/businessreview/2023.v8i1.910>
- Sorong, F. A. (2022). The Influence of Behavior Financial and Financial Attitude on Investment Decisions With Financial Literature as Moderating Variable. *European Journal of Business and Management Research*, 7(1), 265–268. <https://doi.org/10.24018/ejbmr.2022.7.1.1291>
- Sutejo, B. S., Sumiati, A., Wijayanti, R., & Ananda, C. F. (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? In *Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration* (Vol. 31, Issue 2).
<https://doi.org/10.46585/sp31021755>
- Tamara, D., Yudo Arianto, A., & Marzuki, E. (2022). The Effect of Financial Literacy, Herding Behavior and Risk Tolerance on Investment Decisions. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 5(4), 30259–30271.
- Wanyoike, D. (2016). Psychological Factors and Investment Decision among United State International University Students. In *United State International University Africa* (Vol. 6, Issue August).
- Worzie, P. (2020). Factors Affecting Investment Decisions Among Listed Firms in the Nairobi Securities Exchange. *International Journal of Engineering Technologies and Management Research*, 7(2), 124–142. <https://doi.org/10.29121/ijetmr.v7.i2.2020.533>
- Yulianis, N., & Sulistyowati, E. (2021). The Effect Of Financial Literacy, Overconfidence, And Risk Tolerance On Investment Decision. *Journal of Economics, Business, and Government Challenges*, 4(1), 61–71. <https://doi.org/10.33005/ebgc.v4i1.172>
- Yuwono, W., & Elmadiani, C. (2021). *The Effect of Emotional Contagion, Availability Bias, Overconfidence, Loss Aversion, and Herding on Investment Decisions in the Millennial Generation During the Beginning of the Covid-19 Pandemic*. <https://doi.org/10.4108/eai.6-3-2021.2306475>
- Zain-ul-Abdin, S. (2017). *The Impact of Behavioral Factors on Investment Decision and Performance: Exploring Multiple Mediation Mechanisms*. The University of Lahore.
- Zain, S., Qureshi, F., Iqbal, J., & Sultana, S. (2022). Borsa _ Istanbul Review Overconfidence bias and investment performance : A mediating effect of risk propensity. *Borsa Istanbul Review*, 22(4), 780–793. <https://doi.org/10.1016/j.bir.2022.03.001>