

The Influence of Behaviour Finance and Demographic Factors on Investment Decision Making Through Risk Tolerance as Mediation

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Abstract: Investment decision making is something that is inevitable and a critical moment in determining the success of an investor in making their investment. This research conduct since investment decision making is very difficult to measure and seen directly. Hence, it is necessary to identify various factors that influence investment decision making including demographic factors, behavior finance, and risk tolerance. The type of research is quantitative with a population of all capital market investors who invest in shares on the Indonesia Stock Exchange (IDX), especially the LQ45 index as well as data processing uses AMOS 24. The results showed that demographic factors have an influence which causing specific behavior and tolerance thresholds related to risk, which in turn affect performance and optimization in investment decision making. Investors must also be aware of the existence of behavior finance which is found in the form of behavior or actions caused by psychological factors inherent. On the other hand, the role of risk tolerance also shapes behavior patterns and planning processes related to finance which are described in risk acceptance. Hence, the emergence of identified investor behavior will later make opportunities for momentum and investment strategies that improve the performance and success of their investments as well as the quality of excellent decision making.

Keyword: Demography Factor, Behavior Finance, Risk Tolerance, Investment Decision.

INTRODUCTION

Investment is a form of commitment related to funding an asset over the next few periods which has the aim of obtaining income or adding value in the future followed by time and risk attributes (Jensen & Jones, 2020); (Sarkar & Sahu, 2018); and (Smart et al., 2017). In addition, all forms of investment always lead to an investment decision which often

involves psychological factors that are inevitable, as well as part of a process and critical moments because they describe the situation of an investor's success in making his investment (Asad et al., 2022); (Jensen & Jones, 2020); and (Raheja & Dhiman, 2020).

When investors make decisions in stock investments, various factors influence the decision-making process. One of these factors is risk tolerance, which refers to an investor's willingness, desire, and readiness to take on risk when making investments. It can change based on the conditions and situations faced by the investor and involves psychological (emotional and cognitive) factors, as each investor has their own risk preferences and considers the tradeoff between risk and return (Arora & Mishra, 2023); (Yao & Rabbani, 2021); (Jensen & Jones, 2020); (Nigam et al., 2018); (Chaffin, 2018). However, risk tolerance is difficult and challenging to observe and measure due to its inherent nature within each investor, constantly evolving and varying based on individual assessments. In other words, there is no guarantee regarding risk tolerance since only the investor themselves can comprehend, accept, and establish the limits of risk tolerance; consequently, it is contingent upon the investor's characteristics (Asad et al., 2022); (Rahman, 2019)

Therefore, to identify the characteristics possessed by investors, one can observe the behavior and actions undertaken by individual investors, a field known as behavioral finance. Behavioral finance proves to be instrumental in measuring the level of risk held by investors (Feldman & Liu, 2023). Consequently, behavioral finance is a discipline that examines investment behavior arising from the fact that investors are not always rational and make error-prone assessments. This integration of financial aspects with psychology involves cognitive and emotional factors. Eliminating these factors is deemed impossible due to the inherent nature of investor behavior when determining risk tolerance limits and serving as subjects of decision-making behavior in investments (Jensen & Jones, 2020); (Mittal, 2022); (Baker et al., 2019); (Nigam et al., 2018); (Zahera & Bansal, 2018); (Chaffin, 2018); (Aren et al., 2016). This is evident in stock investment processes where investors tend to place more trust in family, relatives, friends, securities, social media references, or discussion forums that they consider credible and reliable. They may also be enticed or tempted by public enthusiasm, rapid social media updates leading to short bursts of information amid uncertainty and complex market situations, resulting in hasty decisions seeking shortcuts, driven by overconfident emotional responses an event or, conversely, excessive fear due to regrets and trauma from past experiences (Beatrice et al., 2021); (Ritika & Kishor, 2022); (Sharma & Kumar, 2019); (Nigam et al., 2018); (Zahera & Bansal, 2018).

Another factor influencing risk tolerance and subsequently decision-making is demographic factors. Demographic factors encompass discriminatory behavior elements that serve as differentiators in forming specific behaviors and decision-making among investors. Therefore, a decision made by one investor cannot truly represent or be followed by another investor (Beatrice et al., 2021). Moreover, demographic factors have an impact on risk tolerance, such as gender, age, income, and personality-related issues related to emotions and moods (Asad et al., 2022); (Wong & Carducci, 2016). Socio-demographic factors play a predictive role in determining the level of risk tolerance for each individual, especially age and work experience. Furthermore, the relationship between risk tolerance levels and individual demographic factors, particularly through education, income, gender, marital status, and age to gender, has been explored (Arora & Mishra, 2023); (Metawa et al., 2019); (Isidore & Christie, 2019)

Some of the interrelationships include gender differences in risk-taking between men and women. Age factor differences provide insights into investor reactions, trading volume, trend direction analysis, response to stock price changes, and stock preferences. In addition, education and occupation levels suggest that investors with a background in finance tend to make more rational investment decisions and understand risk. Income levels influence consumption patterns, savings, risk-taking and asset allocation. Higher levels of experience tend to ignore emotional and sentiment factors, as well as risk limits, leading to investment decision-making. Fundamental considerations for investment goals related to investor background and risk preferences ensure more optimal investment decision-making patterns and actions (Hsu et al., 2021); (Cupák et al., 2021); (Rasool & Ullah, 2020); (Özen & Ersoy, 2019); (Metawa et al., 2019); (Isidore & Christie, 2019); (Chaffin, 2018); (Sarkar & Sahu, 2018).

Therefore, the urgency of conducting this research arises from the inevitability of investment decision-making, a critical moment in determining the success of an investor's investment endeavors. Consequently, this study incorporates behavioral finance and demographic factors. This choice is driven by the understanding that demographic factors, through each of their indicators, portray individual investor characteristics in terms of socioeconomic aspects. These factors are closely related to the foundational levels of risk preference and tolerance, investment background and goals, knowledge levels, investment strategies, habits and patterns of investment, and investment decision-making. Meanwhile, behavioral finance plays a crucial role because every investor exhibits behavior influenced psychologically, encompassing cognitive and emotional aspects. This influence is evident in the changes in risk tolerance and inevitable decision-making. Despite investors attempting to exert control to ensure the intended behavior occurs, the reality often diverges, creating a "behavior gap." This gap emerges because such behaviors are ingrained in an investor's thinking and proving nearly impossible to eliminate. Consequently, no matter how smart an investor may be, errors can still be occurred. Hence, this research addresses the topic titled "The Influence of Behaviour Finance and Demographic Factors on Investment Decision Making Through Risk Tolerance as Mediation".

METHOD

This research used quantitative approach. The study subjects are investors registered in the capital market, specifically in the LQ45 stock market, which is one of the indices on the Indonesia Stock Exchange (IDX). This index is chosen due to its stringent evaluation and selection process, high liquidity, and the largest market capitalization, all of which are criteria set by the Indonesia Stock Exchange (IDX) (Bareksa Team, 2023); (Bions Team, 2022).

Additionally, the research population is considered to be all investors in the capital market who invest in stocks on the Indonesia Stock Exchange (IDX). The sampling technique using purposive sampling, a method of sample selection based on specific considerations and criteria (Sugiyono, 2022). Therefore, the sample representation in this study consists of investors investing in stocks in Indonesia within the LQ45 index. Hence, the considered sample in this research encompasses all capital market investors investing in stocks on the Indonesia Stock Exchange (IDX) within the LQ45 index.

The data measurement and analysis technique used in this study is AMOS version 24, involving validity tests, reliability tests, and hypothesis testing to illustrate the description or relationships between related variables conducted in this research.

RESULTS AND DISCUSSION

Description of Research Data

Based on result (table 1) for validity test following below, it is evident that all indicators have met the criteria and are considered valid. The Pearson product-moment correlation coefficient (estimated value) with a positive value greater than 0.3 (> 0,3) is deemed valid, as indicated by (Sugiyono, 2022). Therefore, all questions or statements in the questionnaire are deemed suitable for use in the research instrument.

Table 1. Validity Test Result				
Variable	Estimate	Condition	Information	

EXP	<	demo	0,790	> 0,4	Valid	
INC	<	demo	0,586	> 0,4	Valid	
EDU	<	demo	0,623	> 0,4	Valid	
AGE	<	demo	0,531	> 0,4	Valid	
GEN	<	demo	0,647	> 0,4	Valid	
HRT	<	Risk	0,477	> 0,4	Valid	
MRT	<	Risk	0,579	> 0,4	Valid	
LRT	<	Risk	0,443	> 0,4	Valid	
РК	<	decision	0,648	> 0,4	Valid	
FA	<	decision	0,429	> 0,4	Valid	
ТА	<	decision	0,507	> 0,4	Valid	
IPB	<	behavior	0,480	> 0,4	Valid	
EB	<	behavior	0,670	> 0,4	Valid	
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Source: Data Processed for research purposes (2023)

Based on result (table 2) for reliability test following below, it is evident that all indicators have met the criteria and are considered reliable. In accordance with the stipulation that the coefficient alpha value should be > 0.70 (above 0.70), it is deemed acceptable (Bougie & Sekaran, 2020). Therefore, all questions or statements are considered reliable in this research.

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		Valid	Error				
		Value	Value				Reliability Score
Demo EX	EXP	0,79	0,154	CR	10,09333	10,09	0,832211003
	INC	0,586	0,319		2,031	12,12433	
	EDU	0,623	1,091				
	AGE	0,531	0,277				
	GEN	0,647	0,19				
Risk	HRT	0,477	0,244	CR	1,499	1,499	0,711775878
	MRT	0,579	0,113		0,607	2,106	
	LRT	0,443	0,25				
Decision	PK	0,648	0,047	CR	1,584	1,584	0,714156898
	FA	0,429	0,362		0,634	2,218	
	ТА	0,507	0,225				
Behavior	IPB	0,48	0,29	CR	1,15	1,15	0,736235595
	EB	0,67	0,122		0,412	1,562	
	•	Source: I	Joto Procos	sad for rase	arch nurnos	(2023)	•

Tabel	2.	Reliability	Test	Result
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Source: Data Processed for research purposes (2023)

Based on result (table 3) for Hyphotesis result below it provides an overview of the results of the hypothesis testing for all variables in the study, demonstrating that they have a significant impact. This is evidenced by the requirement that the significance value (sig) should be < 0.05, and for the critical ratio > 1.96, as outlined by Sugiyono (2022).

Table 3. Hyphotesis Result							
Estimate			S.E.	C.R.	Р	Label	
Risk	<	demo	0,082	1,987	0,048	Par_10	
Risk	<	behavior	0,119	2,352	0,019	Par_11	
decision	<	Risk	0,289	2,273	0,041	Par_12	
decision	<	demo	0,322	2,006	0,047	Par_13	
decision	<	behavior	0,104	2,423	0,015	Par_14	
		Courses Date	Duppersonal for	nacaanah muma	(2022)		

Source: Data Processed for research purposes (2023)

Discussion

With positive and significant results, each demographic factor examined, including gender, age, job level, education level, income level, and experience level, as well as investment goals, has proven to be a differentiating factor in shaping specific behaviors and irreplaceable decision-making by investors (discriminatory behavior). This subsequently influences future behaviors, impacting optimal or poor investment decision-making, as aligned with relate studies (Beatrice et al., 2021); and (Baker et al., 2019).

This is exemplified through gender, demonstrating courage in risk-taking, with both men and women assessed as having risk aversion (Hsu et al., 2021); (Cupák et al., 2021); and (Rasool & Ullah, 2020). Hence, variations in age and experience factors also provide insights into investors' responsiveness, trading volume, trend analysis, response to stock price changes, stock preferences, and the neglect of emotional and sentiment factors in investment decisions. Even the age range becomes the basis for differences related to situations and conditions in the market phase (bull & bear), as mentioned (Arora & Mishra, 2023); (Beatrice et al., 2021); (Isidore & Christie, 2019); (Metawa et al., 2019); (Baker et al., 2019); (Sarkar & Sahu, 2018).

Moreover, higher age and experience levels are seen as fundamental in forming differences in behavior and risk tolerance degrees during investment decision-making. This is because they should exhibit increasingly positive investor behavior, seen as a learning process in predicting market price movements. It also involves disregarding emotional factors and sentiments such as mental accounting in higher age groups and positive overconfidence, avoiding anchoring, framing, and loss aversion dominated by younger individuals, as discussed in relate studies (Arora & Mishra, 2023); (Beatrice et al., 2021). This alignment extends to the personality traits directly influencing behavior, particularly overconfidence, and determining tolerance limits. Investor preferences based on previous experiences impact investment decision-making in the end (Akhtar & Das, 2020); (Aren et al., 2016). As well as investment objectives as a fundamental consideration related to behavior patterns and risk preferences so that risk limits are identified and the pattern of investment decision making by investors will be more optimal (Sarkar & Sahu, 2018).

Furthermore, in terms of education and employment levels, it was found that investors with a background in finance tend to make more rational investment decisions and understand risks compared to investors with non-finance backgrounds and occupations (Özen & Ersoy, 2019). Additionally, they exhibit better behavioral traits, as evidenced through positive overconfidence and mental accounting, as opposed to behaviors associated with loss aversion or anchoring, in line with studies by (Beatrice et al., 2021); (Ahmad & Shah, 2022); (Baker et al., 2019). Moreover, concerning income levels, it is believed to influence individuals' consumption patterns, savings, risk-taking, and asset allocation. This is supported by research conducted by (Isidore & Christie, 2019); (Chaffin, 2018). Higher income levels tend to result in bolder and more confident risk-taking behavior, increased tendencies towards mental accounting, and diverse asset allocation for predefined goals. Furthermore, the elevated income allows investors access to better financial advisors, allowing overconfidence and framing behavior (Beatrice et al., 2021); (Grable et al., 2020); (Isidore & Christie, 2019).

Therefore, demographic factors play a predictive role in determining the level of risk tolerance held by each individual. This is evident through the levels of courage and risk limits based on factors such as age, risk-taking influenced by gender differences, and education levels as reflections of knowledge. Income levels impact the process of planning and asset allocation, while experience levels serve as a learning mechanism that can enhance or diminish self-confidence, risk threshold, and the behavioral tendencies of investors. Additionally, investment goals underpin the decision-making and setting of risk limits for an investor as align in related studies (Arora & Mishra, 2023); (Twin, A., 2022); (Butler, C.,

2022); (Asad et al., 2022); (Yao & Rabbani, 2021); (Cupák et al., 2021); (Grable et al., 2020); (Akhtar & Das, 2020); (Mittal, 2022); (Rahman, 2019); (Isidore & Christie, 2019); (Baker et al., 2019); (Wong & Carducci, 2016)

Due to the fact that risk tolerance depicts the extent to which an investor can accept certain levels and comfortable with risk, related to their level of self-confidence in implementing investments, the psychological aspect involving emotions and cognition plays a crucial role. This is evident in the varying degrees of behavioral differences and changing risk tolerance due to shifts in prices and market conditions such as bullish & bearish (Asad et al., 2022); (Arora & Mishra, 2023); (Yao & Rabbani, 2021); (Jensen & Jones, 2020); (Ritika & Kishor, 2022); (Raheja & Dhiman, 2020); (Mittal, 2022), (Chaffin, 2018); (Nigam et al., 2018). Inevitable decision-making in the investment process, involving affective factors, investor self-confidence, mood, personality, emotions, and cognition, often results in irrational decision-making, error-prone preferences, and behavior reflected in sudden stock's price movements. This leads to a divergence known as the behavior gap, illustrating the disparity between what investors should do and what they actually do, as related studies Raheja & Dhiman, 2020); Nigam et al., 2018); Baker and Puttonen, 2017; Aren et al., 2016).

Therefore, behavioral finance becomes highly useful in measuring the level of risk, such as through behaviors like loss aversion, where investors tend to avoid risks, thus being perceived as pessimistic and refraining from investment activities. Thus, understanding the emotional and social mood levels of investors will impact risk management related to assessments and investment decision-making. Investors who are joyful or confident tend to have low risk tolerance, and vice versa, as documented by (Feldman & Liu, 2023); Asad et al., 2022). The decision-making process becomes particularly challenging because it involves psychological factors (cognitive and emotional). Even in making decisions, it is based on the consideration of the narrative of the situation, where the decision is founded on the narrative that seems to be the best rationale for them, as discussed by (Chaffin, 2018); (Rutten et al., 2013).

Therefore, there is no guarantee of precisely determining the threshold of tolerance possessed by an investor because only the investor themselves can measure it, and it can change over time. Additionally, capabilities are challenging to measure directly as they are inherent in each individual and only become apparent during decision-making. However, behaviors and actions based on psychological factors can assist in observing patterns and measures to gauge an investor's risk level, such as decision execution and perceptions in portfolio management and asset allocation. This ongoing investment activity leads to decision-making, forming a continuous process, as aligned with studies (Feldman & Liu, 2023); (Asad et al., 2022); (Jensen & Jones, 2020); (Rahman, 2019); (Aren et al., 2016).

In other words, eliminating a behavior is impossible because behavior becomes evident when investors determine their risk tolerance and become subjects of behavior in investment decision-making, an integrated action with psychology. Hence, no matter how astute an investor is, errors can still occur, and there is never an absolute or permanent investment strategy. However, investors can learn from experience, which is an essential learning process, as emphasized in studies (Jensen & Jones, 2020); (Baker et al., 2020); (Mittal, 2022); (Baker et al., 2019); (Nigam et al., 2018); (Zahera & Bansal, 2018); (Chaffin, 2018); (Aren et al., 2016).

Hence, investment decision-making is closely linked to considerations and evaluations regarding the investor's comfort and the risk they are willing to bear. The magnitude of risk tolerance is influenced by demographic factors, which serve as predictors and discriminatory behavior toward each investor. Furthermore, this tolerance is also reflected in integrated behaviors with psychological factors, influencing the threshold of risk through perceptions, thought patterns, mood, personality, emotional, and cognitive factors, in line with studies

(Arora & Mishra, 2023); (Feldman & Liu, 2023); (Beatrice et al., 2021); (Asad et al., 2022); (Jensen & Jones, 2020); (Ritika & Kishor, 2022); (Sharma & Kumar, 2019); (Chaffin, 2018).

CONCLUSION

This research contributes to elucidating the relationships among variables, revealing the magnitude and limits of risk tolerance acceptable to investors by observing the behaviors induced and demographic factors possessed by investors related to investment decision-making, a critical moment in determining the success of an investor's investment.

Demographic factors represent a unique aspect, describing the socio-economic conditions of investors, making decisions that cannot be delegated to other investors. This pertains to gender, age, education level, job status, income level, experience level, and investment goals, resulting in behaviors and thresholds of risk tolerance that ultimately affect performance and optimization in investment decision-making. Additionally, the existence of an inevitable behavior is a continuous process in decision-making. Hence, investors must be aware of the psychological factors (emotional and cognitive) inherent in them because they integrate into their decision-making, impacting portfolio performance, maximizing profits, shaping investment strategies, and determining risk limits.

Risk tolerance plays a crucial role in the planning process, shaping behaviors and actions, and making investment decisions based on investors' psychological and financial aspects, contributing to and impacting the portfolio, ultimately leading to the success of the investor's investments. The presence of behavior and demographic factor support must be identified in investors. This identification allows specific and tangible investor characteristics to emerge, creating highly positive momentum in investment decision-making.

Due to the diverse (heterogeneity) risk tolerance among individuals, which is challenging to measure and directly observe, identifying behavior patterns and examining demographic factors is crucial for socio-economic identification by financial advisors in guiding investors (clients). The accuracy of recommendations, advice, and guidance provided by financial advisors enhances investment performance and the quality of financial advisors and other financial institutions, making the investment world more attractive. Additionally, regulators (policymakers) should observe the behavioral tendencies exhibited by investors. This insight can lead to investment patterns that integrate with programs and policies, fostering a positive public perception and boosting the Indonesian economy. This, in turn, raises awareness among investors about understanding behaviors related to psychology and socio-economic factors, forming strategic opportunities in sorting risk preferences, avoiding losses, improving investment performance, and making better decisions. Furthermore, future research could explore or examine other aspects related to risk tolerance, such as the big five personality, risk awareness, risk attitude, financial literacy, and other factors aligned with this study. This exploration would provide specific insights into investment decision-making behaviors and influencing factors.

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