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ANALYSIS OF FINANCIAL LITERACY AND RISK TOLERANCE ON STUDENT DECISIONS TO INVEST

Rahayu Mardikaningsih, Didit Darmawan

University of Sunan Giri Surabaya

correspondence: rahayumardikaningsih@gmail.com

Abstract - *Every individual, including students, needs wealth to fulfill all their needs. Therefore, they always try to acquire this wealth through investment decisions. In making investment decisions, there are factors that need to be considered, such as financial literacy and tolerance for risk. This study aims to examine the effect of financial literacy and tolerance for risk on the investment decisions of students in Surabaya City. This research uses quantitative methods and a random sampling method with a sample size of 120 respondents. The data used in this study is primary data obtained through a survey using a questionnaire. Data analysis was conducted using multiple linear regression to test the hypothesis regarding the effect of financial literacy and risk tolerance on investment decisions. Data analysis includes validity, reliability, classical assumptions, hypothesis testing, and the coefficient of determination. All analyses were conducted using SPSS version 26 software. Based on the results of the study, it is evident that the tests carried out on the variables studied showed significant results. This means that both individually and as a whole, financial literacy and tolerance for risk affect students' decisions to invest in Surabaya City*.

Keywords: university students, financial literacy, risk tolerance, investment decision.

INTRODUCTION

Rapid economic progress has encouraged people to look for sources of income beyond the regular income earned from work, and investment has become one of the more attractive options. Investment involves investing capital, either directly or indirectly, with the expectation that the owner of the capital will benefit in the future from the invested capital. Nowadays, investment has become a common activity undertaken by various levels of society in Indonesia with the aim of achieving a decent and financially adequate life. During productive periods or when one is working and has family responsibilities, individuals tend to prioritize their needs and desires to purchase assets or other products as savings for the future, including when they enter retirement. This is done in an effort to secure personal finances and prepare for economic challenges in the future. In making investment decisions, each individual must consider factors such as risk profile, long-term financial goals, knowledge of investment instruments, and current market conditions. In this context, financial literacy plays an important role as a strong foundation for making smart and informed investment decisions. Nevertheless, it is important for every individual to gain a deep understanding of investments before engaging in them (Ishtiaq et al., 2019). This includes an understanding of the types of investments available, the associated risks, diversification strategies, and the ability to manage and cope with possible market fluctuations. By gaining knowledge and improving financial literacy, individuals can make wiser investment decisions, optimize potential returns, and protect their invested capital. Awareness of the importance of investment as a tool to achieve financial independence is increasing among Indonesians, making it an integral part of efforts towards a more stable and prosperous future.

Investment can be defined as a financial move made by sacrificing some funds to buy a product at this time with the hope of making a profit in the future. Many individuals are interested in investing in the capital market because it offers attractive returns. The capital market offers various types of investment products that provide many choices for investors or potential investors. The capital market also acts as a means of funding for companies and other institutions, including the government, as well as a forum for various investment activities (Angelini & Cavapozzi, 2017). As such, capital markets provide the necessary facilities and infrastructure for buying and selling activities as well as other related activities. However, attention needs to be paid to whether investors have made investment decisions that are in accordance with the basic principles of investment. While the capital market offers lucrative opportunities, the investment decisions taken should be based on careful consideration. Investment decisions are highly individualized and entirely dependent on personal preferences. Before reaching an investment decision, it is expected that careful consideration has been given (Adamus & Grezo, 2021). Investment decisions involve choosing between two or more investment alternatives in the hope of gaining future profits. There are various factors, both internal and external, that influence investment decisions. From a rational investor's perspective, influential internal factors are financial literacy and risk tolerance.

Financial literacy refers to a person's understanding of financial concepts, including knowledge of investment instruments, associated risks, financial management strategies, and the ability to analyze financial information. Financial literacy is a factor that has an impact on investment decision-making for every investor. Not only is relevant information a consideration for investment, but financial literacy is also important in order to avoid financial problems (Hastings & Mitchell, 2020; Baihaqqy et al., 2020). According to Atkinson & Messy (2010), financial literacy is defined as a combination of awareness, knowledge, skills, attitudes, and behaviors needed to make sound financial decisions that ultimately achieve individual financial well-being. Financial literacy will affect how people save, borrow, invest, and manage their finances (Widdowson & Hailwood, 2007). The higher a person's level of financial literacy, the more capable he or she is of making informed, prudent investment decisions that are in line with personal financial goals. Financial literacy will assist investors in organizing personal financial planning and also in implementing it so as to achieve a prosperous life. When making investment decisions, investors have two attitudes: rational and irrational. A rational attitude is the attitude of someone who thinks based on common sense and analyzes the information obtained, while an irrational attitude is the attitude of someone who does not think based on common sense and does not make future predictions.

In addition to financial literacy, investment decisions are also influenced by investors' tolerance for risk (Chavali & Mohanraj, 2016; Nguyen et al., 2019). Fundamental to the investment decision process is understanding the relationship between return and risk. Risk tolerance refers to a person's ability to deal with fluctuations or changes in investment returns (Grable & Lytton, 1999; Shah et al., 2020). Financial Risk Tolerance refers to the minimal amount of uncertainty that a person is willing and able to accept in making financial decisions (Grable, 2000; Nguyen et al., 2019). It describes an individual's attitude toward risk. Knowledge of a person's level of risk tolerance is essential to determining an investment combination that suits his or her circumstances (Rahman, 2020). Each individual has a different level of risk tolerance. Some investors are more willing to take high risks in the hope of getting big profits, while others prefer lower risks and are more conservative. The level of risk tolerance is also influenced by factors such as investment objectives, financial situation, age, and investment experience. The risks that will be faced are systematic risks, namely risks that cannot be eliminated by diversifying investments, and unsystematic risks, namely risks that can be eliminated by diversifying investments. Of course, when conducting investment activities, an investor will choose investment instruments that have good prospects. This means that investors must make investment decisions with the right benefits and risks in order to get the desired results (Kannadhasan et al., 2016). The higher the level of risk tolerance an individual has, the more courageous their investment decision-making will be to choose the type of investment that has a higher risk. Everyone's tolerance level for risk must be different. There are investors who dare to take high risks on their investments in the hope of getting high profits, but there are also investors who are less brave or very careful in determining their investments so that the risks they face later are low, even though they know that the benefits they will get later are also low.

In making investment decisions, it is important for individuals to carefully consider their level of financial literacy in line with the risk tolerance appropriate to their personal circumstances and financial goals. With a good understanding of investment instruments and the ability to manage risk, individuals can make smarter investment decisions based on deep understanding and informed financial wisdom. Thus, based on the previous background, this research was conducted with the aim of knowing the effect of financial literacy and risk tolerance on student investment decisions.

RESEARCH METHODS

This research uses a quantitative approach, which relies on numbers and statistical calculations as the method of analysis. A survey approach was used in this study, in which a questionnaire was used as a data collection tool. In compiling the questionnaire, the variables studied were translated into indicators, and then the indicators were converted into questions or statements that could be answered by respondents.

This research was conducted in Surabaya City and involved students as research objects. The data used in this study are quantitative and obtained through the filling out of questionnaires by students in Surabaya City, both men and women. The research sample consisted of 120 student respondents. Hair et al. (2006) recommend that the number of research samples, if the exact population size is unknown, be at least five times the number of variables analyzed or indicators used. To calculate the sample size, the formula (5–10) times the number of indicators can be used. In this study, there are 12 indicators used, so the calculation results in a sample size of 120 respondents. Based on these references, the researcher concluded that a sample of 120 respondents was an appropriate size for this study.

Financial literacy is knowledge of basic financial concepts, including an understanding of investment products available in the capital market, which is the basis for making financial decisions. Financial literacy can be measured through an understanding of basic financial concepts, existing financial markets and instruments, and financial planning (Beal & Delpachitra, 2003).

Risk tolerance is the level of an individual's readiness to take risks in investment. The level of risk tolerance can be measured through individual behavior when taking risks, such as aggressive or conservative attitudes towards investment (Pak & Mahmood, 2015).

An investment decision is a type of investment decision taken by an investor as a result of a response to the information received. Investment decisions can be influenced by various factors, including corporate image, neutral information, accounting information, and personal financial needs (Al-Tamimi & Anood, 2009).

In this study, the analysis uses multiple linear regression as an analytical tool to examine the relationship between financial literacy, risk tolerance, and investment decisions. The data analysis used includes validity, reliability, classical assumptions, hypothesis testing, and the coefficient of determination. All data analysis results were obtained through the output of SPSS version 26 statistical software.

RESULTS AND DISCUSSIONS

Instrument measurements are said to be valid when the instrument is able to measure constructs in accordance with the objectives and expectations of the researcher. In this study, all statement items related to financial literacy, risk tolerance, and student investment decisions showed a positive correlation coefficient and an r-count value greater than the r-table. This indicates that the data obtained is valid and allows for further testing.

Apart from validity, reliability is also an important factor in variable measurement. A variable is said to be reliable if it obtains an alpha value greater than 0.6. The Cronbach's alpha value of the financial literacy, risk tolerance, and investment decision variables listed in Table 1 shows that the instruments used in the questionnaire have good reliability. Thus, the questionnaire instrument used in this study can be considered reliable and trustworthy as a measuring tool for the variables of financial literacy, risk tolerance, and investment decisions.

Table 1
Reliability test results

No	Variables	Cronbach’s Alpha	Status
1	Financial literacy (X.1)	0.751	Reliable
2	Risk tolerance (X.2)	0.764	Reliable
3	Investment decision (Y)	0.853	Reliable

Source: SPSS Output

An effective regression model is characterized by the distribution of data that follows the normal distribution on the diagonal axis of the normal distribution graph. To evaluate whether the data meets the assumption of normality, the normal P-Plot graph is used as a reference in decision-making. Based on the analysis in Figure 1, it can be concluded that the normality assumption is fulfilled.

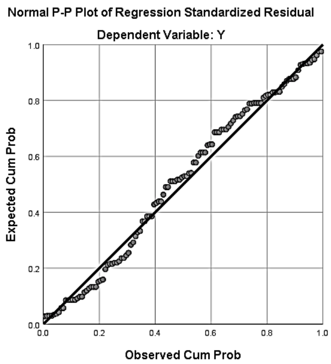

Figure 1. Normality Test
Source: SPSS Output

A good regression model is characterized by homoscedasticity, which is the absence of heteroscedasticity. In this case, the results of the analysis in Figure 2 show that there are no signs of heteroscedasticity. This can be seen from the pattern of data distribution that is evenly distributed above and below the number 0 on the Y axis, as well as the absence of a regular pattern.

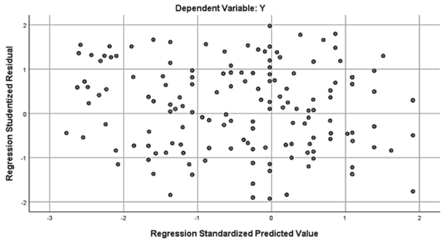

Figure 2. Heteroskedastity Test
Source: SPSS Output

The Durbin-Watson approach is used to determine whether there is autocorrelation in the regression model, with a range of values between -2 and 2. The analysis results show a Durbin Watson value of 1.834, which indicates that there is no autocorrelation problem in this regression model, in accordance with the results of the Durbin Watson approach. Furthermore, the results of multiple linear regression analysis and the t test can be seen in Table 2 below. The t test is basically used to measure the extent to which the influence of the independent variables individually can explain the variation in the dependent variable.

Table 2
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	22.331	2.818		7.925	.000
	X.1	4.091	.497	.402	8.233	.000
	X.2	7.259	.585	.605	12.398	.000

Source: SPSS Output

Based on Table 2, the regression equation can be arranged as follows: Y = 22.331 + 4.091X1 + 7.259X2. The constant value of 22.331 indicates that if financial literacy and risk tolerance have a value of zero, then the investment decision will have a value of 22.331. The financial literacy variable shows a t-count value of 8,233 with a significance level of 0.000 <0.05. This shows that the financial literacy variable significantly affects the decision of students to invest individually. The risk tolerance variable shows a t-count value of 12.398 with a significance level of 0.000 <0.05. This shows that the risk tolerance variable also significantly affects the decision of individual students to invest. Furthermore, the simultaneous test results have been presented using Table 3. If the probability (sig F) <0.05, then there is a significant influence of the independent variable on the dependent variable.

Table 3
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22779.971	2	11389.985	273.845	.000[b]
	Residual	4866.354	117	41.593		
	Total	27646.325	119			

Source: SPSS Output

Based on Table 3, the results show that financial literacy and risk tolerance have an F-count value of 273,845 with a significance level of 0.000. The significance level is smaller than α=0.05, so it can be concluded that financial literacy and risk tolerance jointly affect students' investment decisions. Furthermore, to measure how much the model's ability to explain variations in the dependent variable is affected, the coefficient of determination (R square) is used. The results of the calculation of the coefficient of determination in this study can be seen in Table 4 as follows:.

Table 4
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.908[a]	.824	.821	6.449	1.834

Source: SPSS Output

From Table 4, it is known that R square has a value of 0.824. This result shows that 82.4% of the variation in student investment decisions can be explained by the financial literacy and risk tolerance variables that have been studied. The remaining 17.6% is influenced by other factors that have not been investigated in this study.

Financial literacy plays an important role in shaping students' investment decisions (Hastings & Mitchell, 2020; Baihaqqy et al., 2020). A good understanding of financial concepts, including investment, can provide students with the necessary knowledge and skills to make smart and informed investment decisions. In the context of investment, financial literacy enables students to understand various investment instruments, such as stocks, bonds, and mutual funds, as well as the risks and potential returns associated with each. Through financial literacy, students can identify their investment goals, measure the risks they are willing to take, and make investment decisions that suit their financial situation and long-term goals (Halizah, 2022). A high level of financial literacy also helps students understand investment-related terms and concepts, such as portfolio diversification, risky assets, and risk-free assets. With this understanding, students can make more informed investment decisions, minimize unnecessary risks, and maximize their potential investment returns. In addition, financial literacy also helps students understand the importance of managing their finances in general. They can learn how to budget, manage debt, and develop healthy savings habits. This understanding can help students manage their financial resources wisely and build long-term financial stability (Mardikaningsih et al., 2020). With increased financial literacy, students will have strong tools to make smart investment decisions, build financial stability, and face future financial challenges with more confidence. A good understanding of finance is essential in the process of making financial decisions, including investments (Mardikaningsih et al., 2021). With an understanding of finance, individuals can invest their income sources in different types of investments, such as stocks, bonds, property, and other investment options, while understanding the associated risks. Financial literacy can be obtained through various sources, such as information from friends, family, parents, electronic media, and other sources. An increased level of financial knowledge contributes to better financial behavior in financial decision-making and the ability to implement it. Therefore, it can be concluded that an investor who has a high level of financial literacy tends to have a better financial understanding, which in turn makes them wiser and bolder in making risky investment decisions. Financial literacy can be obtained through formal and non-formal education, such as education provided by parents, attending financial seminars or training, and obtaining information through online news related to finance.

Risk tolerance also plays a significant role in students' investment decisions (Chavali & Mohanraj, 2016; Nguyen et al., 2019). Theoretically, the level of risk tolerance will affect a person's investment decisions. A person's risk tolerance level is influenced by various factors, such as age, gender, income, wealth, experience, and income from investment. As a student, having a good understanding of risk tolerance is a key factor in determining the right investment strategy (Darmawan & Djaelani, 2022). This understanding can affect a person's attitude towards risk and their ability to deal with fluctuations in investment value. Each individual has a different level of risk tolerance. Some students may be more likely to take higher risks in the hope of getting greater returns, while others may prefer to avoid risk and choose safer investments (Kurniawan et al., 2022). It is important for college students to understand the risks associated with investments and be able to evaluate their comfort level in dealing with those risks (Darmawan, 2022). With a good understanding of risk tolerance, students can make wiser investment decisions that are in line with their financial goals (Mardikaningsih, 2022). Moreover, this understanding can also help them manage their expectations regarding investment returns and anticipate possible fluctuations in investment value. Individuals with high risk tolerance tend to make bolder investment decisions compared to those with low risk tolerance. Higher risks tend to result in higher potential returns. Individuals who have good risk tolerance in financial terms will be more likely to take higher risks and thus have a higher chance of earning greater returns. Shah et al. (2020) argue that risk tolerance is subjective and influenced by behavioral biases. Nguyen et al. (2019) suggest that risk tolerance is a personal characteristic that can change over time and is influenced by external factors. Following these arguments, the results of this study are in line with them from a behavioral perspective.

CONCLUSIONS

After conducting hypothesis testing, it can be concluded that financial literacy and risk tolerance have a significant influence on student decisions to invest both individually and jointly. These results indicate that students' knowledge about investment still needs to be improved and explored more deeply so that they can understand the terms and conditions of investing. Students need to actively improve their understanding of finance and keep abreast of national economic developments to broaden their horizons and gain useful information for making financial decisions that can have an impact on their current and future financial well-being. In addition, it is important for students not to rely solely on their personal thoughts and perspectives but to seek more information about the investments they make, as investment decision-making requires rational consideration and taking into account the risks that may arise. In order to improve students' financial literacy, it is important for educational institutions to provide programs and resources that support the development of financial literacy. This can include specialized training, seminars, or courses that teach relevant financial concepts and practices. In addition, collaboration with financial institutions and industry practitioners can also provide students with practical insights and real-world experience in investing. By understanding the factors that influence risk tolerance and how to build a good understanding of risk, educational institutions can provide more effective and relevant education in finance to students. This will help students develop the necessary skills and knowledge to make smart investment decisions based on a good understanding of the risks involved. For future research, it is recommended to involve more respondents so that the research results are more relevant, as well as adding several other variables that have a major contribution to making investment decisions.

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