A FINANCIAL PLAYBOOK FOR MAKING INVESTMENT FINANCIAL DECISIONS

Muhammad Ichwan Musa
Department of Management, Faculty of Economics, Universitas Negeri Makassar, Indonesia
Email: m.ichwan.musa@unm.ac.id

Annisa Paramaswary Aslam
Department of Management, Faculty of Economics, Universitas Negeri Makassar, Indonesia
Email: annisa.paramaswary@unm.ac.id (corresponding author)

Nurul Fadilah Aswar
Department of Management, Faculty of Economics, Universitas Negeri Makassar, Indonesia
Email: nurul.fadilah.aswar@unm.ac.id

Khaidir Syahrul
Department of Management, STIEM Bongaya, Makassar, Indonesia
Email: khaidir.syahrul@stiem-bongaya.ac.id

Jalaluddin Mannagalli Parawansa
Guanghua School of Management, Peking University, China
Email: 2301213892@stu.pku.edu.cn

Abstract

This study examines the influence of gender, age, education, living area and marital status as socio-demographic indicators and financial literacy toward investment decisions. The research was conducted in South Sulawesi, Indonesia with 167 respondents. The sample used was purposive sampling, with the specific criteria for the level of Indonesian wealth. Quantitative methods and a problem-solving approach were used. We found that gender has a negative and significant effect, education, living area, and marital status positively and significantly affect investment decisions. Women tend to prefer low-risk investments compared to men largely attributed to lower levels of financial literacy among women. In terms of education, investors with higher levels of education are more likely to make more informed investment decisions as they demonstrate improved risk management skills and a higher level of financial literacy. The living area also influences their investment decisions, with urban investors having easier access to information and knowledge about investments. Marital status also affects investment decisions, as married investors often prioritize the responsibility of their investments. However, age have a negative and not significant on investment decisions. This can be explained by the higher number of younger people becoming involved in investment decisions.

Keywords: age; financial literacy; gender; investment decisions; socio-demographic

JEL Classification: G50, G51, G53

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INTRODUCTION

Financial literacy is the ability or skill of people to manage their own finances (Adetunji & David-West, 2019; Dewi et al., 2020; Morgan & Trinh, 2019). Money management skills in financial literacy include the wise use of money to meet daily needs and for investment planning and savings activities (Grohmann, 2017; Raut, 2020). Knowledge of financial literacy is not limited to personal money management. Financial literacy helps people understand banking institutions as well. Banking institutions are now one of the most important sectors for processing transactions for daily needs (OJK, 2022).

In digital era, with the development of technology and information, the financial technology industry in banks is also accelerating. Financial literacy also has great benefits for society as a whole, such as the ability to judge financial products and services that suit oneself, avoid investing in opaque financial products, and properly understand the benefits and risks of investments. Community-owned investments can improve welfare and play an important role in national growth (OJK, 2022). The presence of fintech has had a significant impact on the financial sector, facilitating the transition from manual to digital processes. It has also led to the development of digital platforms that benefit society, such as budgeting applications, the ability to buy stocks or mutual funds with minimal funds, and the convenience of digital payments or cashless transactions. According to OJK (2023), the level of digital financial inclusion has a direct correlation with the yearly GDP growth rates of nations. Additionally, community-owned investments can enhance welfare and play a crucial role in national growth (OJK, 2022).

Indonesia's financial literacy index reached 49.7% and the financial inclusion index also rose to 85.1 in 2022. This indicates that the gap between literacy and inclusion is shrinking (OJK, 2022). The study shows that financial literacy in Indonesia is improving and has implications for the country. This improvement in financial literacy is a positive thing because good financial literacy helps a country become a high-income, developed, and stronger nation. To this end, the Government will implement a series of programs, especially in the banking industry, as outlined in the National Strategy for Financial Literacy and Inclusion (SNLIK) 2021-2025 of Indonesia, to develop the National Financial Literacy and Inclusion Index and promote further development of financial inclusion and quality of products and services in Indonesia (OJK, 2022).

Various research and the results of the National Survey of Financial Literacy and Inclusion (SNLIK) which was conducted in 2022 show that financial inclusion in South Sulawesi shows quite high figures with the financial inclusion index reaching 88.57% compared to the national level of 85.10 %. However, in contrast to financial literacy in South Sulawesi, it shows that the financial literacy index in South Sulawesi is only 36.88% compared to the national level of 45.99%. On the other hand, specifically the financial literacy index in South Sulawesi based on urban and rural categories, referring to survey results in 2019, shows that the financial literacy index in urban areas is 38.54%. This number is much higher than in rural areas which has only just reached 26.32%. South Sulawesi is known as Entrepreneur City, this condition conduct that the development of financial inclusion is faster than financial literacy. Therefore, OJK builds new program, LAYARKU, to accelerate increasing financial literacy and inclusion in South Sulawesi.

SNLIK aims to achieve a target of 90% financial inclusion by 2024. The Indonesian Government is actively providing education and socialization efforts to enhance financial literacy and inclusion in Indonesia through the Gerakan Revolusi Mental (Mental Revolution Movement).

The Gerakan Revolusi Mental is a movement that aims to transform ways of thinking, working, and living based on The Pancasila, Indonesia's foundational philosophy. For instance, cultivating saving habits instills values of independence, persistence, hard work, thriftiness, discipline, and consistency in the younger generation. Furthermore, improving access to financial products and services will assist marginalized communities and low-income individuals in gaining more financial knowledge and education.

The government is looking to the financial sector to help support the country's economic resilience by lending to domestic investors. Government pressure on developing digital finance must continue to be maintained for healthy growth and economic dynamism. There are also expectations that digital finance will spread to all regions of Indonesia, accelerating the digital finance transformation across the country through digital finance providers based in Indonesia. In addition, priority targets for financial literacy in 2023 are MSMEs, people with disabilities, border regions, outermost regions and disadvantaged (3T) communities (Ministry of Finance Indonesia, 2022).

Nowadays, research into the drivers of access to financial literacy into observe socio-demographic factors is becoming increasingly important in developing countries as access to finance has been closely linked to economic growth (Al-Bahrani et al., 2020; Adetunji & David-West, 2019). Seeing that, unconsciously, the investment decisions a person makes are sometimes inappropriate and will harm them in the future due to a lack of financial literacy (Kadoya & Khan, 2020). Meanwhile, high financial literacy leads to increased financial decision making (Grohmann, 2017). Priority targets for financial inclusion in 2023 are women, students, college students, SMEs and people in rural areas, including areas of Sulawesi, the focus of this study. This study was conducted to address the limitations of available literature on financial literacy and investment decision-making in South Sulawesi. Researchers recognize the importance of conducting financial literacy and socio-demographic surveys in order to assess investment decisions in communities. The primary focus of this study was to obtain data from urban and rural communities in South Sulawesi using a targeted questionnaire format. The formulation of the questions in this study was how financial literacy levels and socio-demographics affect the investment decision strategies of South Sulawesi people.

LITERATURE REVIEW

Investment Decision

Prospects and psychological investors determine the investor to decide their investments. Xiao (2008) and Meier & De Mello (2019) show that prior to the development of the behavioral finance theory, finance was traditionally linked to economic theory, assuming that all market participants had equal access to information. Additionally, it was recognized that internal factors, primarily psychological in nature, influenced irrational actions, serving as the foundation for desires, motivations, and sources of error such as overconfidence, wrong perceptions, lack of education, and the inability to control negative emotions. Consequently, the discrepancy between the fundamental theory and real-world market conditions necessitated the introduction of the behavioral finance theory, which aimed to address the impact of psychology on financial behavior.

The cognitive aspect pertains to intellectual capabilities and thinking, including knowledge, understanding, application, analysis, evaluation, among others. The affective aspect includes ethical behavior, feelings, attitudes, emotions, and more. Behavioral finance highlights the influence

of psychological biases, which can push an investor towards irrational decisions when making investments. Zahera & Bansal (2018) suggests that biased and sometimes irrational behavior of investors is heavily influenced by emotions and mood during the investment decision-making process.

Investing in financial asset is basically putting up an amount of money now with the expectation of getting a profit in the future. Investment decisions are activities performed by a person with excess money. An investor should always be careful before making an investment decision (Goyal & Kumar, 2021; Cude et al., 2019). Financial literacy is believed to be positively related to investment decisions, as financial literacy translates into better investment opportunities. We use financial knowledge to evaluate investment decisions. Existing literature shows that there is a gap in the understanding of the underlying processes and mechanisms through which financial literacy influences investment decision-making because plays a major role in in shaping responsible attitudes and behaviours with regard to the personal finances and financial literacy is an essential component for a successful life (Barthel & Lei, 2021; Grohmann, 2017). This study aims to address this gap by examining the role of financial literacy in the relationship between financial literacy and investment decision-making.

Financial Literacy

According to several studies (Musa et al., 2023; Yuesti et al., 2020; Munohsamy & Brunei, 2015), stable personal finances are important for domestic finances and a better future. The development of digital finances and the increasing prevalence of financial fraud have led societies to seek more information before making financial decisions. Financial decisions significantly impact people's spending, saving, and investment behaviors. Financial literacy is closely related to the level of financial stability and knowledge, which in turn

contributes to a stronger financial economy (Raut, 2020; Lusardi & Mitchell, 2014). Poor financial knowledge can lead to poor financial decisions and affect an individual's ability to achieve long-term goals (Hong et al., 2022; Ergün, 2018;). In addition, poor financial literacy can lead to leaky personal loans (Wang et al., 2021), financial difficulties, and the possibility of bankruptcy (Bourova et al., 2018). The lack of financial literacy makes individuals more susceptible to engaging in illegal investments, and making incorrect financial decisions can result in the loss of their investments and wealth. For instance, during the current pandemic-induced economic uncertainty, individuals with high financial literacy are more likely to feel secure about their financial situation due to their existing savings and emergency funds.

People who are educated in financial matters can invest in stocks and get a higher return on investment (Goyal & Kumar, 2021). During a pandemic, financial problems could be avoided by increasing financial literacy (Yuesti et al., 2020). In this era, financial literacy is a tool and plays an important role in the storage and development of money (Lusardi, 2019). Thus, understanding one's finances can improve one's economic decision-making and financial management skills (Refera & Kolech, 2015). We can conclude that the higher the financial literacy, the better the investment decision. In this article, we assume that financial literacy as a determining factor affects non-investment preferences and investment decisions of an individual. These traits include personal finance literacy, savings and credit literacy, insurance literacy, and investment literacy.

H1: Financial literacy has a positive and significant influence on investment decisions.

Gender

Behavioural finance show that gender affect the decision making of the investor to decide their instrument investments. Risk tolerances and beliefs have a significant effect with the investment decisions. Risk tolerances impact to the level of risk that the investors will take to their investments. So, we can conclude that men and women have different risk tolerances for their investments.

Various literatures show that female investors are less confident than male investors. Women tend to choose lower risk investments compared to men. Furthermore, women are less economically literate than men (Al-Bahrani et al., 2020; Setiawan & Aslam, 2018). This condition brings that the women's financial investment is more conservative. In addition, wealthy men are more bigger risk tolerance than wealthy men because they averse to hold a larger portion of cash and choose stocks or high-risk investments.

Studies show financial literacy programs for genders are less effective for women (Cupák et al., 2021; Berge et al., 2014; Lusardi & Mitchell, 2014). Therefore, to increase the effectiveness of financial literacy training for women in emerging market, it is crucial to understand the sources of the gender gap in financial literacy. In this regard, the literature finds that there is a gap about genders in terms of their level of financial responsibility in the family (Hsu et al., 2021), education level (Metawa et al., 2019) and income level (Eberhardt et al., 2019). And potential factors of gender gaps contain labor market variables such as sector, job, industry, union membership, and labor market status (Preston & Wright, 2019). Based on these studies, we expect that men make better investment decisions in general. For example, women's job in many societies is unpaid household and care work, and spend more time in part-time job (Preston & Wright, 2019). Bateman et al., (2012) show that job and industry have a significant effect to financial literacy because unemployed or blue-collar labour tend to have lower levels of financial literacy.

H2: Gender has a positive and significant influence on investment decisions.

Age

Kadoya & Khan (2020) investigated whether population analysis such as age, gender, revenue, occupation, and experience are associated with overconfidence, optimism, temperament effects, and group biases. They found that age, occupation, and experience were strongly associated with behavioral biases. They found that age, occupation, and experience were strongly associated with behavioral biases. As investors grow older, attain higher positions in their jobs, and gain more experience, they will come to realize the importance of financial literacy and seek guidance from financial advisors or attend financial webinars. This will enable them to achieve performance returns through diversified investments. Young investors often prefer high-risk investments and may not diversify their portfolio, which can lead to poor returns in uncertain economic conditions. On the other hand, older investors tend to diversify their investments, protecting themselves from such uncertainties. Similar to that finding, Eberhardt et al. (2019) also find that greater experienced-based knowledge leads to better decision-making among older adults.

Warmath & Zimmerman (2019) and Garg & Singh (2018) found that financial literacy increases with age. Similar to (Eberhardt et al., 2019; Ton & Nguyen, 2014) also found that increased experiential knowledge managing finances based on greater experience helps older people make informed decisions and leads to better investments. Therefore, we can conclude that advancing age is associated with enhanced capabilities and intelligence for making better investment decisions in financial literacy. As we grow older, we

naturally seek greater knowledge and information that can guide us towards improved, more confident and optimism with investment decision-making. We assume that older people will make better investment decisions.

H3: Age has a positive and significant influence on investment decisions.

Education

Baker et al. (2019) reported that shareholder with higher education had a special character of disposition effect. The disposition effect has characterized by overconfidence that related with higher educational level. Bhandari & Deaves (2006) and Deaves et al. (2010) found that confidence increased when people received higher education. Similarly, Ateş et al. (2016) suggest that representative biases are more associated with uneducated investors. An analysis of educational attainment shows that people with higher educational attainment have higher financial literacy (Potrich et al., 2015). The level of confidence of investors enhances with their intelligences because with higher educational levels have better financial literacy. (Tóth et al., 2015) points out that higher education levels and economic orientation of education lead to improved financial literacy because these individuals are more likely to undertake money management.

Ateş et al, (2016) suggest that representative biases are more associated with uneducated investors because they tend to choose financial investments without knowing the risks of the investors. Morris & Koffi (2015) support this, noting that financial education increases financial literacy. In addition, a study of 1,486 insurance company employees nationwide found that financially literate employees had a better understanding of their personal finances and how this affects their future financial expectations (Hira & Loibl, 2005). We argue that the higher the level of education reached, the better the investment decisions that are taken.

H4: Education has a positive and significant influence on investment decisions.

Living Area

The level of financial literacy in urban areas is higher than in rural areas, Lotto (2023) and Jappelli (2010) show that urban residents have relatively high literacy levels, and more active social interaction is associated with higher literacy levels. Urban residents have numerous opportunities to enhance their financial literacy due to the presence of better technological infrastructure, including high-speed internet connections and advanced technology systems. Furthermore, the concentration of financial institutions head offices and companies in urban areas contributes to a higher level of financial literacy compared to rural areas. We expect that individuals who live in urban areas have better financial literacy and will be able to make better investment decisions.

H5: Living area has a positive and significant influence on investment decisions.

Marital Status

Low-risk investments, such as deposits or government bonds, have lower returns and risks compared to high-risk investments, such as stocks or cryptocurrencies. Low-risk investments offer stable returns with a low probability of default, which is characterized by lower interest rates or yields. This brings that married people are risk-averse investors (risk-averse) as they prioritize meeting family needs before making investments.

Single investors tend to invest in riskier assets than married investors (Wahyuni & Pramono, 2021; Lutfi, 2010). It because single investors have freedom for their investment plannings. They can decide their own financial and investment preferences without discuss with other persons especially for investing in high-risk investments. So, we can conclude that marital status influences financial deci-

sions with unmarried men being the most confident, followed by married men, married women, and unmarried women (Baker et al., 2019).

H6: Marital Status has a positive and significant influence on investment decisions.

RESEARCH METHODS

The research was conducted in South Sulawesi in 21 districts and 3 municipalities. The period of this research was started from March 2023 until June 2023. The type of sample used in this research was purposive sampling, which is a sampling technique used when the researcher already has individual targets with characteristics appropriate to the research. Our final samples were 167 observations and the respondents in this study were residents of South Sulawesi with a minimum total wealth of IDR 70,000,000. We used this level of wealth as the median wealth of the Indonesian population is US$4,835 or around Rp.72.7 million (exchange rate of Rp.15,032/US$) in 2021 (*Credit Suisse*, 2022). Quantitative methods and a problem-solving approach were used in this study. The variable index of financial literacy was determined by responses to questions about an individual's general financial knowledge and an individual's level of financial literacy. Individual socio-demographic variable indicators were evaluated using dummy variables based on the respondents' gender, education background, age, place of residence, and whether they live in an urban or rural area. For the investment decision variable, this study used a dummy variable equal to one if the respondent answered three questions correctly regarding inflation, risk diversify-cation, and interest rates.

The method of data analysis in this study was to apply logistic regression with binary logistics (variable dummy). Logistic regression analysis differs from other approaches for creating predictive models, such as linear regression and the so-called OLS regression (Ordinary Least Squares method). The difference is that in logistic regression the researcher predicts the dependent variable on a dichotomous scale. For example, a binary scale is a nominal data scale with two categories: big or small, good or bad, success or failure. OLS analysis requires the condition or assumption that the error variances (residuals) are normally distributed. In contrast, logistic regression follows a logistic distribution, so this assumption is not necessary.

The analytical method used in this study is binary logit regression. Simply put, the logit model is a non-linear regression model that generates an equation with a categorical dependent variable. The most basic category of the model generates binary values such as the numbers 0 and 1. Model:

$$\text{Log}\left[\frac{P}{P-1}\right] = \beta_0 + \beta_1\text{GEN} + \beta_2\text{AGE} + \beta_3\text{EDU} + \beta_4\text{LIVAR} + \beta_5\text{MAR} + e \quad \ldots\ldots\ldots\ldots(1)$$

Where: P, probability of investment decision; β, constant; GEN, gender; EDU, education; LIVAR, living area; MAR, marital status.

Financial literacy is a determinant in assessing investment decisions. FINLIT (Financial Literacy) represents the public's level of knowledge, skills, and confidence in financial institutions and their products and services, as indicated in the regulatory parameter scale of the OJK index. Thus, financial literacy is measured by seventeen (17) questions related to basic financial calculation skills and financial instruments. Five questions targeted understanding of general knowledge and personal finance, four questions targeted understanding of investing, four questions targeted under-standing of insurance, and four questions targeted understanding of saving and loans. Dummy variables were used for the responses to each question. GEN (Gender) was measured using a dummy variable

with a male score of 0 and 1 for women. EDU (Education) was calculated using a dummy variable with elementary school of 0, 1 for junior high school, 2 for senior high school, 3 for bachelor degree, 4 for magister degree, and 5 for doctoral degree. AGE was measured using a dummy variable with 16-30 years for 0, 31-45 years for 1, 46-60 years for 2, and higher than 60 years for 3. LIVAR (Living Area) was calculated using a dummy variable with living in a rural area for 0 and living in between an urban area for 1. The category urban is when the respondent living in municipalities of South Sulawesi (Makassar, Palopo, and Pare-Pare) and they are in rural when located in the 21 districts of South Sulawesi. MAR (Marital Status) was calculated using a dummy variable with otherwise for 0 and married for 1.

RESULT AND DISCUSSION

Descriptive Statistics

Demographically in Table 1, male was slightly higher in number than female samples. Respondents have an average age of 40, with a minimal age of 20 and a maximal age of 88. Most of the respondents were married. We measured the sociodemographic characteristics of the respondents based on their education level. South Sulawesi is traditionally highly educated, which is reflected in our research. Samples have an average of more than 12 years of education, which means they have achieved an education above the university level. The samples were also mainly residents living in urban areas.

Financial Literacy Index Analysis

Table 2 reports the characteristic and distribution of financial literacy by age, gender, education, living area, and marital status. Our findings show that age has no significant effect on investment decision because of the increase of financial literacy in the young generation. Financial literacy tends to be higher at a young age in the

millennial generation category increasing at higher ages to a certain level, after which it slowly starts to decline.

The level of financial literacy of men are higher than women. Financial literacy varies considerably by level of education. Respondents with higher education had higher scores on financial literacy. The financial literacy level of the graduate samples was much higher than in the other groups. Respondents who live in urban areas have a higher level of financial literacy than respondents who live in suburban areas. This could be explained by the ease of accessing news or news about finance using technology in urban areas. Furthermore, respondents who are married have a higher level of financial literacy than respondents who are not married. In the process of social learning, this implies that people who have partners have more opportunities to share and gather experiences, which can increase financial literacy. Spouses have an impact on financial literacy. Working spouses ensure additional income for the family besides allowing the couple to enjoy more leisure time, which can remain invested in financial literacy.

The level of financial literacy is well proven by the results of the Financial Literacy Index (FLI) test. The FLI test shows that the financial literacy index in the study locations is 0.660 (66.0%), which means that the financial literacy level of the people of South Sulawesi is in the medium category (the categories of financial literacy are defined as High: 0.7-1.0, Medium; 0.4-0.6, Low: 0.1-0.3). As the FLI > 0.6, H1 (the hypothesis that financial literacy has an impact on investment decisions) is accepted. The index was created by computing the average index for each element of financial literacy; the fundamental financial knowledge index, which was 0.649; the investment literacy index, which was 0.657; the insurance literacy index, which was 0.645; and the savings and loan

literacy index, which was 0.689. Details of the FLI calculation results are obtainable in Table 3.

The average value of financial literacy is 0.660 (66.0%), which indicates that respondents have a moderate ability to answer financial literacy questions correctly. On average, respondents could answer eleven of the seventeen questions correctly.

Table 1. Descriptive Statistics

Variable	Obs.	Mean	Standard Deviation	Min	Max
Investment Decision	167	0.74	0.442	0	1
Gender	167	0.45	0.449	0	1
Age	167	40	13.139	20	88
Education	167	2.77	1.096	0	5
Living Area	167	0.61	0.489	0	1
Marital Status	167	0.74	0.442	0	1

Source: Primary data process

Table 2. Characteristics and distribution of financial literacy by age, gender, education, living area, and marital status

Variable	Frequency	Percentage	Financial Literacy Index (FLI)
Gender			
Male	92	55.1	71.99
Female	75	44.9	58.51
Age			
16-30 years	55	32.93	72.36
31-45 years	52	31.14	66.37
46-60 years	44	26.35	59.48
higher than 60 years	16	9.58	61.40
Education			
Elementary School	7	4.2	31.09
Junior High School	13	7.8	44.34
Senior High School	37	22.2	49.44
Bachelor	69	41.3	73.91
Masters	36	21.6	78.92
Doctor	5	3.0	89.41
Living Area			
Rural Area	65	38.9	52.94
Urban Area	102	61.1	74.22
Marital Status			
Otherwise	44	26.3	64.57
Married	123	73.7	66.43

Source: Primary data process

Table 3. Determination of the Financial Literacy Index

	Financial Literacy Component				FLI
	General Knowledge and Personal Finance	**Invest**	**Insurance**	**Saving and Loan**	
Score	542	439	431	460	0.660
Index	0.649	0.657	0.645	0.689	

Source: Primary data process

Parameter Significance and Hypothesis Test

To test the hypothesis, a logistic regression test was performed on all variables, namely gender, age, education, living area, marital status (socio-demography), and financial literacy as a determinant and predicts investment decisions. Based on Table 3, the test results are as follows:

Investment Decision = -3.620 – 2.064GEN – 0.025AGE + 2.033EDU + 1.544LIVAR + 1.467MAR + e ....(2)

The numbers resulting from these tests can be explained by the results of statistical hypothesis testing in Table 4.

Significance was assumed when $p < 0.05$. The results of testing the hypothesis that gender has an impact show a significance value of 0.001. This means that Ho (that gender has no effect) is rejected and Ha is accepted. This indicates that gender has a negative and significant influence in predicting investment decisions. The data suggest males make better investment decisions. The results of testing the hypothesis that age impacts investment decisions show a significance value of 0.370. Therefore, the null hypothesis, Ho is accepted and Ha rejected, meaning that age has negative and no significant influence on investment decisions.

The results of testing the hypothesis that education impacts investment decisions show a significance value of 0.000, indicating that Ho is rejected and Ha is accepted. The results show that education has a positive and significant influence in predicting investment decisions, and that individuals with a higher level of education are more likely to make good investment decisions. The results of testing the hypothesis that living area (urban or rural) impacts investment decisions show a significance value of 0.018. This means that Ho rejected and Ha is accepted: living area has a positive and significant influence in predicting investment decisions. Those living in town are better for investment decisions. The results of testing the hypothesis that marital status impacts investment decision making show a significant value of 0.041. Therefore, Ho rejected and Ha is accepted: marital status has a positive and significant influence in predicting investment decisions, with married respondents more likely to make good investment decisions.

Table 4. Variables in the Equation for the evaluation of investment decision-making and results of the Wald test

Variable	B	S.E.	Wald	df	Sig.	Exp(B)
Gender	-2.064	.637	10.495	1	.001	.127
Age	-.025	.028	.803	1	.370	.976
Education	2.033	.441	21.236	1	.000	7.635
Living Area	1.544	.653	5.599	1	.018	4.685
Marital Status	1.467	.718	4.168	1	.041	4.336
Constant	-3.620	1.694	4.564	1	.033	.027

Source: Primary data process using SPSS 25.0 version

Odds Ratio

To assess the probability of an event occurring compared to the absence of an opportunity, a logistic regression test was performed on all variables, namely gender, age, education, place of residence, marital status (socio-demographics), and financial literacy as determinants in predictive of investment decisions. According to Table 3, the results of the odds ratio test indicate a negative relationship between respondents' gender and their tendency to decide to invest. For every one-point increase in gender, the tendency to decide to invest decreases by -2.064 times. Additionally, the tendency to decide to invest is negatively related to age, with a decrease of -0.025 times for every one-point increase in age. Conversely, the tendency to decide to invest is positively related to education, with an increase of 2.033 times for every one-point increase in education. Furthermore, the tendency to decide to invest is positively related to the living area, with an increase of 1.544 times for every one-point increase in the living area. Finally, there is a positive relationship between respondents' marital status and their inclination to invest. Each increase in marital status by one point corresponds to 1.467 times increase in the tendency to decide to invest.

The opportunity for respondents to decide to invest is obtained by value:

$$\pi(1) = \frac{Exp(\beta_0 + \beta_1 + \beta_2)}{1 + Exp(\beta_0 + \beta_1 + \beta_2)}$$

$$\pi(1) = \frac{0.027 + 0.976 + 7.635 + 4.685 + 4.336}{1 + (0.027 + 0.976 + 7.635 + 4.685 + 4.336)} = 0.9464 \quad \text{...(3)}$$

Meanwhile, the opportunity for respondents not to decide to invest was obtained:

$$\pi(0) = 1 - 0.9464 = 0.0536 \quad \text{.............(4)}$$

ROC

The Receiver Operator Characteristic (ROC) of the developed model is shown in Figure 1. The area is 0.952, giving an accuracy of 95.2% for logistic regression. The asymptotic significance is less than 0.05, this model means that using the model to predict investment decisions is better than guessing. By analyzing of the ROC curve and the sampling probabilities, we find that with a threshold probability of 0.5 the sensitivity is 0.951 and 1 – the specificity is 0.795. Basically, with this limited probability, 95.1% of investments will be correctly identified and 79.5% of non-investments will be misclassified as an investment decision.
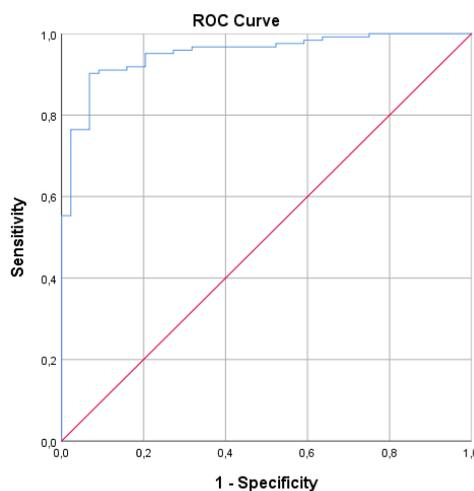

Figure 1. Receiver Operator Characteristic Curve

Discussion
Financial Literacy
The higher the level of financial literacy, the better and wiser the investor in controlling their assets (Wang et al., 2021; Hong et al, 2022; Noviarini et al., 2023). If someone has sufficient investment knowledge, then that individual is also likely to be more courageous in placing his or her funds in higher-risk assets because it also has a higher profit rate. By having knowledge and understanding of broad financial literacy, that person will be more proficient in taking the necessary steps for making the right investment decisions.

Gender
Among the socio-demographic factors examined, gender significantly affects investment decisions, indicating that male respondents are more knowledgeable and confident to make an investment decision than female respondents. It is caused by the character of the male that were created to hold greater responsibilities; therefore, they are required to dare to take risks. This is what drives men to prefer assets with large profits but also large risks such as stocks. This situation will favor the male to make a profitable investment decision. In addition, our study show that women score lower on our financial literacy questions than males. This study is constant with the previous literature (Sekita et al., 2022), which shows that women's lower financial literacy is a result of social learning processes. Women, especially married women, tend to loss their opportunity to learn socially and experientially than men, and so it can be difficult for them to understand economic issues.

Age
The results show that age has not significantly affected investment decisions. Our study suggested that this result is caused by the increasing number of young investors in Indonesia. The growth in the number of investors is dominated by investors under the age of 30. It was recorded that throughout 2022, as many as 58.74 percent of investors started to be literate in investing from an early age (KSEI, 2022). This finding relates with our study that shows the Millennial and Z generations in South Sulawesi tend to invest in stocks and mutual funds for 5 years ago. They get their financial literacy by the webinar and social media and they easy to access their investment because the development of financial technologies in Indonesia. The young investor can, therefore, chooses better investments because of their improved financial literacy. In addition, OJK (2022) show that financial literacy in Indonesia has risen and the increase of Indonesia's financial literacy index was attributed equally to financial literacy and inclusion in Indonesia, especially for older and younger investors.

Education
The level of education has a significant effect on investment decisions this result show that if the level of education is higher a person will understand and can manage the risk well, so that person will be more likely to take high-risk investments. If investors have high level of education, they will know about the risk profiles, control their tolerance risks and get high return with their investments. The result is that the return can remain high while the risks can be managed by strategic decision making. This is consistent with the reports of Bhandari & Deaves (2006) & Deaves et al, (2010), the higher level of education person is able to manage risk properly, the risk he or she will face can be lowered.

Living Area
The results show that the living area, whether urban or rural, has a significant effect on investment decisions. Our study shows that the societies in urban areas have greater financial knowledge than rural areas. This is most likely because the access to product information on finance in urban area is easier than in rural areas. In urban areas, the societies can obtain more

financial events from the government or financial stakeholder such as seminar about financial literacy or inclusion, exhibition or report from mutual fund manager. In addition, the investors in urban areas can go directly to the financial stakeholder offices to get the information.

This result is consistent with the study by Jappelli (2010), the level of financial literacy at urban area is relatively high because access to information in urban areas is easier than rural area. We expect that individuals who live in urban areas have better financial literacy and will be able to make better investment decisions. In addition, our study revealed positive news for government and financial stakeholders. We found that the level of financial literacy and inclusion in rural areas has grown significantly. This growth has narrowed the gap in financial literacy and inclusion levels between rural and urban areas.

Marital Status

The results show that marital status has a significant effect on investment decisions. Our study shows that single investors tend to invest in riskier assets than married investors. They have the freedom to make decisions based on their personal financial goals and preferences, without the need to consult with others, particularly when it comes to investing in high-risk opportunities. These may be explained by married people being risk-averse because they prioritize meeting their family's needs before making an investment. Marital status influences financial decisions, with single men being the most confident, followed by married men, married women and single women. This study is consistent with the study by Baker et al., (2019).

CONCLUSION AND RECOMMENDA-TION

In this paper, we find that Gender have a negative and significant effect on investment decisions, Education, Living Area, and Marital Status have a positive and significant effect on investment decisions. Furthermore, our study shows that Age negative and does not have a significant effect on investment decisions. We observed that the level of financial literacy in South Sulawesi can be categorized as intermediate. We found that the level of financial inclusion is 66% and used a questionnaire with questions about socio-demography, financial literacy, investment instruments, and investment decisions. Our survey was dominated by individuals of productive age, and we found that they tend to have good financial literacy due to the development of finan-cial technology and financial inclusion. This result supports our finding for the effect of age on investment decisions, since the young generation already have some understanding of financial literacy and this helps them to make better investment decisions. This is the reason why the age did not affect investment decisions.

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