

THE INFLUENCE OF FINANCIAL LITERACY, FINANCIAL BEHAVIOR AND INCOME ON STOCK INVESTMENT AMONG INDONESIAN STUDENTS

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ABSTRACT

This research paper examines the relationship between financial literacy, financial behavior, income, and stock investment among Indonesian students. The type of research used is quantitative research descriptive method. Types and data sources used are primary data that is data collected and processed by the researcher himself from the object. Data analysis techniques used in this research are descriptive statistical analysis, convergent validity, discriminant validity, composite reliability, r-square, t-test with the help of software program PLS.

Keywords: Financial Literacy, Financial Behavior, Stock Investment

INTRODUCTION

During the COVID-19 pandemic, the number of investors in the country's capital market increased significantly by 92.99% to 7,489,337 investors as of December 2021 from the position in December 2020. And continued to increase by 33.53% to 10,000,628 on November 3, 2022, with the number of local investors at 99.78% based on data recorded by the Indonesian Central Securities Depository (KSEI, 2022). This shows that the implementation of simplification of securities account opening increased the highest number of investors in the history of the Indonesian capital market. The mutual fund industry is the largest contributor of investors in the capital market and 80% of them are investors from fintech.

Investment typically involves committing capital over an extended period to obtain full ownership of assets or buying stocks and other securities to generate a financial gain. (OJK, 2022). Investing means allocating funds or other resources to a project or business, the purpose of which is to generate profits in the future. Investing is usually done by buying assets that are expected to generate profits, such as stocks, bonds, real estate, or commodities. Investing is important because it can help one achieve long-term financial goals such as retirement or buying a house. In addition, investing can also help offset inflation so that rising prices do not erode the value of the money invested. According to Ivan Jaya (2018), Head of Wealth Management and Retail Digital Business of Commonwealth Bank, Indonesian people's interest in investing is still quite low. In comparison, Indonesia's investment activity is much lower than the neighboring countries. Currently, the number of people who invest is only 0.4% of the total population of Indonesia. Meanwhile, neighboring countries that are more familiar with investment achieve higher investment rates such as Malaysia at 57% of the population, Thailand at 6%, China at 9%, and India at 4%.

Capital markets are often young people's first choice of financial products to invest in. Most capital market investors are the Millennial and generation Z age groups. According to Laksmi, D. (2022, March 29) from KSEI data, millennials and Generation Z accounted for 59.61% of total investors in 2021 and 54.90% in 2020. This age group experienced a much higher increase compared to the 31-40 age group. That age group only decreased from 2020 by 22.51% of the total number of investors to 21.4% in 2021.

Based on the survey results from the Katadata Insight Center (2021), it is shown that the millennial generation and Generation Z in the last two years have invested the most in stocks and mutual

funds. Meanwhile, baby boomers are more likely to choose different types of investments such as gold, property, plantations, etc. The preference for this type of investment arises because of the close relationship between the Millennial and Z generations with technology. With technology, one can invest very easily, and the choice of investment products offered is also very diverse. The amount of investment that can be made also does not have to be in a large amount which is by the financial condition of young investors. (Kompas, 2022)

Investment decisions can be influenced by several factors such as financial literacy, financial behavior, and one's income. When individuals plan to invest, of course, it would be better if the individual has good financial knowledge or financial literacy so that their financial decisions have a clear direction. Financial literacy is a basic need for everyone to avoid financial problems. Financial literacy becomes inseparable in an individual's life because financial literacy is something that supports the financial decision-making process, especially regarding investment. (Rasuma Putri & Rahyuda, 2017).

Lusardi, (2008) states that financial decisions are influenced by financial literacy. Lack of knowledge of basic financial concepts will result in a lack of long-term financial planning. In student life, a financial problem that often arises in students is that they have no income, because some students still depend on their parents (Margaretha & Pambudhi, 2015). (Sabri et al., 2008) said that for most students, college is the first time they manage their finances without parental supervision. Students will face problems that may be new and new in a new environment without parental supervision and support.

Therefore, financial knowledge or literacy is needed in making financial decisions, especially regarding investment. This is certainly very helpful for students in managing their finances and adding insight into investing in the capital market or financial markets. (Yushita, 2017) explains that knowledge and understanding of personal finance are needed by individuals to be able to make the right decisions in the financial field to optimally use the right instruments and financial products. Lack of financial literacy is a serious problem and a big challenge for society, especially for students. The following financial literacy index in Indonesia shows an increase in financial literacy in Indonesian society.

Based on a survey conducted by Katadata Insight Center (2021), a person's financial decisions are influenced by their financial behavior. Millennials allocate most of their income to pay fixed expenses such as mortgage and household bills. The second largest expenditure is to buy necessities such as food and 58% of Millennials rarely make special savings. Meanwhile, in Generation Z, the biggest expenditure is to buy things that are needed, and the remaining funds are only used to pay fixed expenses, save, and buy things that are desired. Based on data owned by the Central Statistics Agency (BPS), the average income of the Indonesian population is IDR 71 million per year or around IDR 5.9 million per month. Although Indonesia's Gross Domestic Product (GDP) figure continues to increase, this figure is nothing compared to neighboring countries such as Thailand and Malaysia. The level of participation of the people of the Republic of Indonesia to invest in the capital market is still quite low.

Out of 260 million Indonesians, only about 0.2% of Indonesians have invested in the capital market. This figure is still very far when compared to neighboring countries, one of which is Malaysia, where 12.8% of the population has started investing in the capital market. (kumparanNEWS, 2017). This shows that one's income affects one's decision to invest or not. Because many Indonesians whose income has been used up to pay for basic needs cannot set aside money for saving and investment. This research refers to research by Baiq Fitri Arianti, (2018) which proves that financial literacy, financial behavior, and income variables have a significant influence on investment decisions.

LITERATURE REVIEW

Financial Literacy

Literacy is an individual's ability to process and understand information when doing reading and writing activities. During its development, the definition of literacy continues to change with the changing times. In the past, the definition of literacy was limited to the ability to read and write. However, nowadays, the term literacy has a broader meaning. According to the Education Development Center (EDC), literacy is more than just the ability to write and read but also the ability to use other potentials and abilities to read words and read the world. According to (Suryanto & Rasmini, 2018), there is no official standard regarding the definition of financial literacy. Because each institution and research defines financial literacy differently.

Financial Literacy is not just a theory or knowledge but also reflects the ability to calculate and spend money. The Financial Services Authority (OJK) says that the understanding and knowledge of financial literacy must be continuously updated and refined. This is because the financial sector continues to change rapidly along with the times and technological advances. The advancement of time causes technological changes and changes in lifestyle.

Understanding financial literacy can help improve your ability to manage money. Money is the most frequently and commonly used means of payment. Thus, everyday activities involve the use of money. Therefore, the ability to manage finances is very important for anyone. According to (Remund, 2010), the understanding of financial literacy is divided into five concepts. These concepts are 1) understanding of financial concepts, 2) ability to communicate about financial concepts, 3) good ability to manage personal finances, 4) making good and appropriate financial decisions, and 5) confidence in planning effective financial needs for the future. Based on these concepts, financial literacy ability can be said to be good if one can master these five concepts.

Knowledge is the most common and basic among other financial concepts. (Braunstein & Welch, 2002), knowledge of financial concepts can determine a person's financial condition. This knowledge can be used to communicate about financial concepts.

According to (Chen and Volpe 2002, p. 289), Americans have poor financial management skills due to poor financial literacy. It proves that a high level of financial literacy can help make better financial decisions and optimize their spending. With good financial literacy, financial goals can also be achieved more easily.

Meanwhile (Orton, 2007) states that financial literacy is very important in a person's life because it is a trusted tool for making good financial decisions. According to (Kharchenko, 2011) financial literacy is the numerical ability to be able to understand basic economic concepts in saving and debt. Another definition according to (Mendari & Kewal, 2013) that financial literacy is needed for everyone to avoid financial problems. There are two approaches to measuring financial literacy according to Kharchenko (2011), namely self-assessment and objective measures like test scores. According to the Financial Services Authority (OJK), the level of financial literacy is divided into four categories, 1) Well Literate which means having understanding, confidence, and skills about financial institutions, products, and services, 2) Sufficient Literate which means having understanding and confidence in financial institutions, products and services, 3) Less Literate which only has an understanding, and 4) Not Literate which means having no understanding at all.

Financial Behavior

Financial behavior is one of the important concepts in the world of finance. According to (Xiao, J.J., Shim, S., Barber, B., & Lyons, A., 2007) financial behavior is a behavior related to financial applications. (Ricciardi & Simon, 2000) states that financial behavior studies the factors of psychology and sociology that influence a person's financial decision-making. This concept is very important in the world of finance because it helps explain why many people often do not make rational and optimal financial decisions.

Based on (Arnett, 2000) emerging adulthood, is the transition from adolescence to adulthood, namely from the age of 18 to 25 years. In this transition period, individuals try all new possibilities such as taking a job,

getting married, and learning to live more independently without dependence on parents. There are five characteristics of emerging adulthood, the first is self-exploration where individuals try to find their identity. The second is a time of instability. Third, it puts the focus on developing oneself through experience and commitment. The fourth is a period of indecision where he feels that he is no longer a teenager but also not fully mature. And the last is always exploring and experimenting with new things, trying new possibilities.

In emerging adulthood individuals experience a transition period so they often have unstable emotions and psychology. Because of the experiences that have been passed, individual abilities also continue to develop from previously thinking abstractly to becoming more structured. Loree (1970) in Nurihsan, et al. (2011) further explain that socialization is a process in individuals (especially children) learning their sensitivity to social stimuli, especially to the pressures of life in their group, associating and behaving like other people; and behaving according to their environment. Based on (Ward, 1974) consumer socialization is the process by which young people gain skills, knowledge, and behavior that are relevant as consumers in society.

According to the theory of planned behavior (Ajzen, 1991), behavior is influenced by intention, which is determined by three factors: attitude, subjective norm, and perceived behavioral control. It also allows external factors to directly compel or prevent behavior, regardless of intention, depending on the extent to which a behavior is controlled by the individual, and the extent to which perceived behavioral control is an accurate measure of actual behavioral control. From some of these theories, the relationship between emerging adulthood, socialization, and planned behavior when combined with demographic factors such as age, gender, education, and so on affects behavior, how to assess, and knowledge about finance.

Income

Individual needs and wants will never run out, but they are limited by the income they earn. Thus, income is one of the main indicators to measure the welfare level of an individual or society. Income can reflect the economic progress of an individual or society. (Luminatang, 2013). According to Sukirno (2006), income is the amount of money received by individuals for their work performance during a certain period, either daily, weekly, monthly, or annually. A person's income depends on the field of work, as well as the time spent working, and the level of hourly income received (Luminatang, 2013).

According to (Brooks, 2017) income cannot be defined by only one thing. Because each side has a different perspective on income. From the tax point of view, income is the index of equality and the basis used for taxes, transfers, etc. For people who invest in property and rent it out, the rental fee is their income. However, several factors must be considered in determining the amount of income. For example, when you have a job that is far enough away that you must use a car, the car also has a value that must be considered. How to get to the job must be deducted from the income we receive.

Investment Decision

According to Tandelilin (2010), investment is a commitment to put some funds or other resources obtain future profits. There are several reasons why people make investments such as to obtain future profits, to avoid high price increases due to inflation, or to save taxes. However, in carrying out the investment process, it is necessary to pay attention to several things, namely knowledge of the type of investment and the risks that each investor has. With this knowledge, investors can avoid risks that are too great.

According to Ansari & Moid (2013), the most crucial challenge faced by investors is when making investment decisions. Sindhu & Kumar (2014) state that making investment decisions means that investors must determine where, how, and how much money to invest. Dewi & Iramani (2014) define investment decisions as a policy taken to invest in one or many assets to generate future profits. Investment decisions also mean how individuals should allocate their funds into an appropriate portfolio.

In designing an investment portfolio, investors must consider their financial goals with the level of risk they are willing to take. According to Malmendier and Shantikumar (2003), large investors tend to respond to recommendations by considering them first whereas, small investors accept recommendations without consideration. Thus, small investors fail because they trust analysts too much without recalculating the

risks. Graham, J. & Harvey, C. & Huang, H. (2009). found the idea that investors who feel more competent or have confidence in investing tend to invest more often than investors who feel less competent. Most highly competent investors tend to invest in international assets.

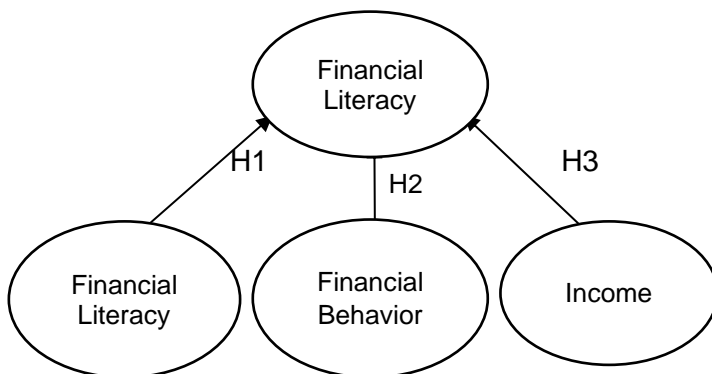


Figure 1. Conceptual framework

Based on the description and framework that has been described, the researcher formulates the research hypothesis as follows:

H1: Financial literacy has a significant effect on investment decisions in the capital market for Indonesian students.

H2: Financial behavior has a significant effect on investment decisions in the capital market for Indonesian students.

H3: Income has a significant effect on investment decisions in the capital market for Indonesian students.

METHODOLOGY

The type of research used by researchers is quantitative research. The population of this study is students in Indonesia who are currently in active university, amounting to 7,800,000 students. The sampling technique used is the purposive sampling technique. The sample was purposively selected to fulfill several criteria:

1. Aged between 18-25 years old.
2. Indonesian students who have an active status studying at a university in Indonesia.
3. Investing in the capital market for 3 months.

To determine the size of the sample is done through a statistical approach by using the Slovin formula (Sugiyono, 2016). With the Slovin formula, it was found that the minimum sample was 400 respondents. For this research, Primary data is collected through an online survey assisted by the Google Form. The data collection approach involved sharing Google Form questionnaires with respondents via online platforms like Line, WhatsApp, and Instagram to individuals who met specific sample criteria. The questionnaires employed in this research were of a closed format.

$$n = \frac{N}{1 + N(e)^2}$$

We utilized the SmartPLS 4.0 statistical software to employ the Partial Least Square approach within the framework of Structural Equation Modeling (SEM-PLS) for data analysis.

ANALYSIS AND DISCUSSION

Analysis

After screening, out of a total of 77 data from respondents participating in the survey, 8 data were unable to be included in further data processing, leaving a total of 69 data to be used. As a result, 87% of those who took part in this research responded. The objective of the descriptive analysis is to offer a summary of both the respondents' characteristics and how they have responded to the statements presented in the questionnaire used in this research.

Table 1. Respondent demographic profiles

	Category	Quantity	Percentage
1.	Gender		
	Male	33	47,8%
	Female	36	52,2%
2.	Age range		
	17 – 19 years old	4	5,8%
	>19 – 22 years old	18	68,1%
	>22 – 25 years old	47	26,1%
3.	Currently studying in Indonesia		
	Yes	69	100%
	No	0	0%
4.	Semester		
	1-2	1	1,4%
	2-3	3	4,3%
	3-4	9	13%
	5-6	22	31,9%
	7-8	19	27,5%
	9-10	14	20,3%
	>10	1	1,4%
5.	Monthly income		
	<Rp.1.000.000,00	0	0%
	>Rp.1.000.000,00 – Rp.3.000.000,00	24	34,8%
	>Rp.3.000.000,00 – Rp.5.000.000,00	32	46,4%
	>Rp.5.000.000,00 – Rp.7.000.000,00	11	15,9%
	>Rp.7.000.000,00	2	2,9%
6.	Income sources		
	Completely from parents	21	30,4%
	Entirely from work	20	29%
	From parents and work	28	40,6%
7.	Invested in the capital market for more than 3 months		
	Yes	69	100%
	No	0	0
8.	Investment experience		
	<1 year	15	21,7%
	>1 - 2 years	38	55,1%
	>2 - 3 years	15	21,7%
	>3 years	1	1,4%
9.	What percentage (%) of your total income per month is allocated for stock investment?		
	<5%	17	24,6%
	>5% - 10%	17	24,6%
	>10% - 15%	13	18,8%
	>15% - 20%	15	21,7%
	>20%	7	10,1%
10.	Apps used to invest in stocks		
	IPOT	11	15,9%
	Bibit	28	40,6%

Stockbit	10	14,5%
Bareksa	7	10,1%
Mirae HOTS	7	10,1%
BNI Sekuritas	1	1,4%
MNC Trade	2	2,9%
Ajaib	20	29%
RTI Investor	5	7,2%
MOST	2	2,9%
BEST BCA	3	4,3%
POEMS	3	4,3%
Danamon	1	1,4%
Other....	1	1,4%

In general, the mean of the digital financial literacy variable is 4.44. Because the average value is greater than 3, this can be considered good. It can be concluded that the digital financial literacy of students in Indonesia is good. In general, the mean of the saving behavior variable is 4.35. Because the average value is greater than 3, this can be considered good. It can be concluded that the financial behavior of students in Indonesia is good. In general, the mean of the income variable is 4.40. Because the average value is greater than 3, it can be considered good. It can be concluded that the income range of students in Indonesia is good. The investment decision variable in general has a mean of 4.33. This can be said to be good because the average value is greater than 3. It can be concluded that the investment decision of students in Indonesia is good.

Table 2. Description of Variables

No	Name of Variable	Average of Mean
1	Financial Literacy (FL)	4,44
2	Financial Behavior (FB)	4,35
3	Income (I)	4,40
4	Investment Decision (ID)	4,33

Table 3 shows that each indicator used in this study gets a number > 0.5 which indicates that the indicators used in each variable have met the convergent validity criteria.

Table 3. Outer model evaluation

Variable	Indicator	Loading Factor Value	Description
Financial Literacy	FL1	0,855	Valid
	FL9	0,880	Valid
Financial Behavior	FB1	0,873	Valid
	FB4	0,850	Valid
Income	I1	0,762	Valid
	I2	0,756	Valid
	I3	0,832	Valid
Investment Decision	ID1	0,799	Valid
	ID2	0,740	Valid
	ID3	0,786	Valid

Based on Table 4, shows that all indicators used in this study produce an average variance extracted value above 0.5 which indicates that the indicators used have met the discriminant validity criteria.

Table 4. Discriminant Validity (AVE)

Indicator	AVE
Financial Literacy	0,753
Financial Behavior	0,742
Income	0,615
Investment Decision	0,601

Based on Table 5, shows that all indicators used in this study produce a composite reliability value above 0.7 which indicates that the indicators used have met the composite reliability criteria.

Table 5. Composite Reliability

Indicator	Composite Reliability
Financial Literacy	0,859
Financial Behavior	0,852
Income	0,827
Investment Decision	0,819

Based on Table 6, the value of 0.488 indicates that the variables of financial literacy, financial behavior, and income can explain as much as 48.8% of the investment decision variable and the remaining 51.2% is explained by other variables outside this study.

Table 6. R-square

Variable	R-square
Investment Decision	0,488

Hypothesis 1, based on Table 7, indicates that the t-statistical value of the Financial Literacy variable is 1.578. Since the t-statistic value is <1.96, indicating that financial literacy has no significant effect on investment behavior, H0 should be accepted. Hypothesis 2 demonstrates a t-statistic value of 2.659 for the Financial Behavior variable. Therefore, since the t-statistic value is >1.96, it can be concluded that financial behavior has a significant impact on investment decisions, and thus H0 should be rejected. Hypothesis 3 demonstrates that the t-statistic value of the Income variable is 1.379. Since the t-statistic value is <1.96, indicating that income has no significant effect on investment decisions, H0 should be accepted.

Table 7. Path Coefficients

Variable	T-Statistics	P Values
Financial Literacy -> Investment Decision	1,578	0,115
Financial Behavior -> Investment Decision	2,659	0,008
Income -> Investment Decision	1,379	0,168

Discussion

The results of this study indicate that financial literacy has no significant effect on investment decisions. This means that financial literacy does not influence making good stock investment decisions. Based on the respondents' answers to the statement that investment in the present can be useful in the future. This indicates that students already have good financial literacy. Students also have high knowledge about spending, budgeting, and saving. Therefore, students certainly already have extensive financial knowledge. In addition, Herdjiono & Damanik (2016) in their research results say that a person's knowledge of finance tends to be different, but not always someone with high financial knowledge can control their financial behavior management. Therefore, it can be concluded that high knowledge does not guarantee that a person's investment decisions are also good. Thus, financial literacy does not have a significant effect on one's investment decisions.

From the test results that have been carried out, financial behavior has a significant effect on investment decisions. Respondents agree that a person's behavior will affect their spending. If someone has good financial behavior, the spending done will also be good. Vice versa, if someone's financial behavior is bad then the spending will also be bad. This can be seen from the respondents' answers to the statement to prioritize needs over wants. Most students in this study agree that everyone prioritizes spending money on important things. And most students also agree that investment is an important thing to do to meet long-term needs. If every student has a habit of always setting aside their money, then the student will pay more

attention to their financial condition and consider spending more carefully so that there is money that can be used to invest.

Based on the test results that have been carried out in this study, it is found that income has no significant effect on investment decisions. This can be seen from the respondents' answers to the statement that the income received determines how much money is invested. Higher-income gives individuals more financial resources that can be used for investment. With higher incomes, individuals can allocate their funds to various asset classes and industry sectors, thereby reducing the risk associated with a single investment. Higher incomes also allow individuals to invest a larger amount, potentially resulting in higher returns. While higher incomes provide an advantage in investment decision-making, it is important to remember that other factors such as financial knowledge, financial goals, risk tolerance, and market research also play an important role in making good investment decisions.

CONCLUSIONS AND RECOMMENDATIONS

The research results indicate that financial behavior significantly influences Indonesia's students' investment decisions, particularly in terms of prioritizing needs over wants. These conclusions are drawn from the thorough examination and analysis of the collected data. As a recommendation for future researchers, it is advised to broaden the focus of their study and include a more diverse sample to include a broader spectrum of the subject matter. For students, we suggest increasing financial behavior to achieve good investment decisions. Also, for stock investment apps, we suggest enhancing financial literacy and educating people about stock investing.

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