Cointegration of Financial Literacy and Financial Behavior of Student Investment Decision Making

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Abstract

This research was conducted to measure the impact of long-term influence between financial literacy and financial behaviour on student investment decisions. The sample in this study was 120 undergraduate Management students at Widyatama University. The data was collected by using a questionnaire and the sampling technique was using non-probability sampling with a more specific technique that was taken by the researcher in the nonprobability sampling technique was purposive sampling. The total sample used in this study was 120 respondents. The method used is multiple linear regression analysis. The results showed that the independent variables, namely financial literacy and financial behaviour, had a long-term influence on the dependent variable, namely investment decisions. The findings suggest that enhancing financial literacy and promoting positive financial behaviors among students can lead to more informed and effective investment decisions in the long run. Consequently, universities and educational institutions should consider integrating comprehensive financial education programs into their curricula to better prepare students for future financial challenges and opportunities.

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1. Introduction

In a dynamic personal finance and investment landscape, the interaction between financial literacy and financial behavior plays an important role in shaping investment decision-making (Hilgert & Luttrell, 2023). Financial literacy encompasses an individual's understanding of key financial concepts such as savings, saving, investment, and risk management (Dwiastanti, 2015; Lusardi, 2019). On the other hand, financial behavior refers to the actions and attitudes shown by individuals in managing their finances, including spending habits, savings patterns, and investment choices (Khalisharani et al., 2022). The study of the co-integration of financial literacy and financial behaviour in the context of student investment decision-making is crucial (Haddad, 2023), as students represent demographics in the early stages of their financial journey, making decisions that can affect their long-term financial well-being. Students often face unique financial challenges and opportunities, as they move from financial dependence to independence (Covarrubias et al., 2019). This period is crucial to developing good financial habits and acquiring the knowledge needed to navigate the complexity of the financial world. Adequate financial literacy can empower students to make the right investment decisions, understand the risks and potential benefits of various financial instruments. At the same time, positive financial behaviour, such as disciplining savings and spending money wisely, can further enhance their ability to invest wisely. Investigating the co-integration of these factors provides valuable insights into how these factors collectively influence investment decisions among students.

According to the Financial Services Authority (2021) increasing number of current capital market investors in the domination of millennials and generation z under the age of 30. With the increase in the number of investors of the millennial and generally generation z, it can be said that the well-being of the generation millennium and generation Z from year to year is improving,

thereby encouraging them to undertake investment activities. As found in the Custodian Central Indonesia Effects (KSEI) report, which shows that the majority of registered capital market investors are millennials or under 30 years of age, as in the demographics of individual investors.

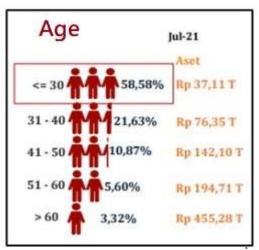


Figure 1. Individual Investor Demography Source: KSEI (2021)

It can be seen that millennials and generation z have an awareness about the importance of investment. It is also seen from data KSEI or Custodian Central Effects Indonesia stated that the number of SIDs in Indonesia is dominated by millennials with the age range under 30 years of age of 58.5% of the total number of domestic investors in Indonesia. Based on the data, it can be seen that there is a huge desire of students to make investments. However, according to the results of the 2019 National Financial Literacy Survey (SNLKI) conducted by the Financial Services Authority (2019), the financial literacy index (ILK) of the Indonesian population in 2019 was 38.03%, which means that out of 100 inhabitants only 38 people belong to the well literate category. It can then be understood that the Indonesian people have not fully sufficient knowledge to optimize their financial management.

The problem is that a lot of societies tend to spend their money on things that aren't profitable rather than investing. The current phenomenon is supported by such rapid information and technological developments especially in e-commerce or online business, of course it is very supportive of the emergence of consumer lifestyle so that one can easily be attracted to buy the goods they want even though they are not needed. This allows for very consumer behaviour to occur for whatever they see without thinking that it is a need or just a desire, so many of the society tends to think short-term. The consequence of such consumerism is a lack of awareness in saving, investing funds for the future.

It's because people don't understand how to invest properly and correctly so many of them are deceived by investments with unreasonable interest-benefit offerings and unclear investment management. Therefore, the public must better understand the kind of investment instruments that will be used to avoid being deceived later on. Having sufficient knowledge of an investment instrument can help an investor to make it easier to choose the right investment decision, so that the investor can maximize the rate of return. To make a good investment decision requires financial literacy and financial behavior so that the investment decision is made correctly and in line with the expectations of investors. By using financial literacy and financial behavior it can make it easier for one to understand and know things about finance as well as the financial risks that may arise in order to avoid financial problems.

According to the Financial Services Authority Regulation No. 76 (2016), financial literacy is the ability of a person to know about his or her financial management, and by his/her financial literature will have an impact on the improvement of that person's standard of life (Rohmanto & Susanti, 2021). Financial literacy has lasting macro consequences that will later affect one's financial behavior (Darmawan, 2020). Financial difficulties are not only experienced by those who have no income, but also those who do not have knowledge of literacy, because without sufficient knowledge the income they have can not even be used as it should be, and it may be that the income gained only receives and loses without restriction (Junaedi & Hartati, 2023). Financial literacy is a combination of awareness, knowledge, skills, attitudes and behaviour that a person needs to have to make sound financial decisions and ultimately individual financial well-being. (Darmawan, 2020).

The purpose of this financial literacy is to improve the quality of individual financial decisionmaking and can help in changing individual attitudes and behaviors, so that financial management is better. Understanding financial literacy is very useful in consumer financial decision-making both individually and collectively and also in the face of market competition (Hastings et al., 2012). Margaretha and Pambudhi (2015) explains that in financial literature there are five indicators: (a) knowledge of financial concepts, (b) ability to communicate about financial concept, (c) the ability to manage personal finance, (d) the capacity to make financial decisions, (e) the confidence to make future financial planning.

Good financial behavior is demonstrated by the presence of planning and management activities as well as good financial control. Good financial behavior is determined by the individual's approach to managing money outputs and savings and investments (Hilgert dan Hogart, 2003). Nofsinger (2001) stated that financial behavior is a science that observes how an individual behaves when making one of the financial decisions. Financial behavior studies how human beings actually behave in a financial decision making in particular studying how psychology affects financial decisions, corporate and financial markets (Wicaksono, 2015). According to Suryanto (2017) financial behavior is a pattern of a person's habits and behaviors when regulating his personal finances.

The concept of co-integration in this context refers to the long-term balance relationship between financial literacy and financial behaviour that collectively influences investment decision-making. This approach allows researchers to explore how changes in literature and financial conduct jointly affect investment returns over time. By understanding this relationship, educators, policymakers, and financial advisers can better support students in developing the competences needed for effective investment strategies, which will ultimately nurture a generation of financially intelligent individuals. Given the plethora of investment options available today, ranging from stocks and bonds to hedge funds and crypto currencies, students with a high financial literacy are expected to be able to better understand the intricacies of these options. They are more likely to evaluate risk, recognize market trends, and diversify their portfolios appropriately. At the same time, good financial behaviour, such as avoiding impulsive decisions andining long-term investment prospects, can reduce the potential trap of the investment process. Thus, the synergy between financial literacy and behavior is crucial in navigating the complex investment landscape.

An investment decision is a form of sacrifice of wealth in the present to gain profits in the future with a certain level of risk (Marsis, 2013). Brown and Reilly (2009) describes an investment as the willingness of a person (or investor) to allocate money at a certain value in the present time in order to obtain receipts later on. A receipt later on that day can be expressed as compensation received by an investor for his commitment not to take money before the time of receipt of future payments. An investment decision is a policy that is taken on two or more capital-planting alternatives with the hope of making a profit in the future (Budiarto & Susanti, 2017).

Lusardi (2019) states that good financial planning will be influenced by a person's literacy level, whereas investment decision-making is affected by how much one understands the basic concepts of finance. A student who has a good level of financial literacy, then he can make his financial decisions relatively better when compared to a student with less knowledge (Krishna et al., 2010). It seems that when a student has a broad knowledge and ability in managing his finances, he will be wiser in making financial decisions. According to Suryanto (2017), financial behavior is the behaviour of an individual in managing his or her personal finances. Financial behavior and investment decisions are two interrelated things. Nofsinger (2001) stated in his definition of financial behavior is a science that observes how an individual behaves when going to make one of the financial decisions. This understanding explains that there is a psychological influence of a person when making an investment decision. It can be seen when someone is going

to manage and make financial decisions of course this is an impact of financial behavior. The better one's financial behavior, the better one is in making investment decisions.

Based on the background that has been described then the author hopes this study can provide an overview of investment decisions made by students of the University of Widyatama is correct, with a good knowledge of Financial Literacy and Financial Behavior.

2. Methods

This research uses descriptive and verification research methods, the definition of the descriptive method according to Sugiyono (2021) is research conducted to describe independent variables, either only on one variable or more (independent variables) without making comparisons and looking for these variables with other variables. The verification method is research conducted on a certain population or sample with the aim of testing the established hypothesis.

The population in this study were all students of the Management Study Program at Widyatama University. The population was 1641 active students for regular A students. The sampling technique to be used as respondents in this study was using the nonprobability sampling method with the purposive sampling type. The nonprobability sampling technique is a sampling technique that does not provide the same opportunity/chance for each element or member of the population to be selected as a sample (Sugiyono, 2021).

The sampling technique using nonprobability sampling with a purposive sampling approach is a technique for determining source samples with certain considerations. The number of samples in this study was 120 people. The data collection carried out in this study was a survey data collection technique. The survey in this study was conducted by using a questionnaire to respondents. The research data was analyzed using the Multiple Linear Regression approach. Furthermore, the analysis method in this study uses validity & reliability tests. Furthermore, the analysis method to answer the hypothesis in this study uses the T Test and F Test (Model Test).

3. Results and Discussion

This study shows that there are 120 respondents who are students of the Management Study Program at Widyatama University, consisting of 83 (69%) male respondents and the remaining 37 female respondents (31%). This shows that there are more male respondents than female respondents. Furthermore, based on age, respondents are dominated by respondents aged 21-25 years, totaling 76 people (63%), while the smallest number of respondents from the questionnaire is aged 15-20 years, amounting to 44 people (37%). Meanwhile, based on the year of intake, the most dominant is the 2020 intake, as many as 53 people (44%), while the smallest intake is in the 2022 intake, as many as 23 people (19%).

Validity Test

The Validity Test is used to show the validity of the research instrument with the provision that the instrument can be declared valid if the coefficient value of r count> r table with a significance level of 5%. the r table value (0.179) is obtained. The research variables are considered valid because all r counts are greater than r table.

Item	r test	r Table	Decision
X ₁₁	0.694	0.179	Valid
X ₁₂	0.703	0.179	Valid
X ₁₃	0.591	0.179	Valid
X14	0.658	0.179	Valid

 Table 1. Results of L_K Validity Test

Source: Data Processeed (2023)

Based on the results of the validity test that has been carried out on item X1, namely Financial Literacy, it can be seen that the calculated r value is > r table, based on a significance test of 0.05, meaning that all questions can be said to be valid and worthy of representing the Financial Literacy variable.

Valid
17 1.1
Valid
Valid
Valid
_

Table 2. Results of P_K Validity Test

Source: Data Processeed (2023)

Based on the results of the Validity Test that has been carried out on item X2, namely Financial Behavior, it can be seen that the calculated r value is > r table, based on a significance test of 0.05, meaning that all questions can be said to be valid and worthy of representing the Financial Behavior variable.

Table 3. Results of K_I Validity Test

Item	r test	r Table	Decision
1	0.779	0.179	Valid
2	0.842	0.179	Valid
Y ₃	0.855	0.179	Valid
Y4	0.733	0.179	Valid

Source: Data Processeed (2023)

Based on the Validity Test Results that have been conducted on item Y, namely Investment Decision, it can be seen that the calculated r value is > r table, based on a significance test of 0.05, meaning that all questions can be said to be valid and worthy of representing the Investment Decision variable.

Statement Items	Variable	r test	r Table	Criteria
X1	Financial Literacy	0.831	0.600	Reliabel
X2	Financial Behavior	0.839	0.600	Reliabel
Y	Investment Decisions	0.912	0.600	Reliabel

Table 4. Reliability Test Results

Source: Data Processeed (2023)

Based on the Reliability Test Results that have been carried out on items X1, namely Financial Literacy, X2, namely Financial Behavior, and Y, namely Investment Decisions, it can be said to be reliable. Reliability Statistics is used to measure the extent to which the level of consistency of respondents' answers over time, using decision-making criteria comparing the minimum value of Cronbach's Alpha of 0.6 with the results of data processing. Meanwhile, Cronbach's Alpha obtained from the results of the Financial literacy variable is 0.831, the financial behavior variable is 0.839, and the investment decision variable is 0.912, meaning that all three variables can be said to be reliable.

Normality Test

The results of the normality test in this study can be seen in the table below:

Table 5. Normality Test Results

One-Sa	mple Kolmogorov-Smirnov T	est
		Unstandardized Residual
Ν		120
Normal Parameters ^{a,b}	Mean	0E-7
Normal Parameters ^{a,b}	Std. Deviation	3.17207821
	Absolute	0.122
Most Extreme Differences	Positive	0.122
	Negative	-0.074
Kolmogorov-Smirnov Z		0.907
Asymp. Sig. (2-tailed)		0.383
a. Test distribution is Normal.		
b. Calculated from data.		

Source: Data Processeed (2023)

The table above shows that the Asymp. Sig value is $0.926 > \alpha = 0.05$. So it can be concluded that the data is normally distributed.

Multicollinearity Test

The multicollinearity test aims to test whether there is a correlation between independent variables in the regression model. The method that can be used to detect the presence or absence of correlation between independent variables can be seen from the tolerance value and the variance inflation factor (VIF) value. If the tolerance value is more than 0.10 (below 10 percent) or the VIF is less than 10, then it can be said that there is no multicollinearity (Ardana, et al., 2009:94). The results of the multicollinearity test in this study can be seen in the table below.

Table 6. Multicollineari	ity Results						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	В	Std. Error	Beta			Tolerance	VI
(Constant)	-0.061	0.387		-0.157	0.876		
Financial Literacy	0.377	0.093	0.342	4.031	0.000	0.686	1.4

0.434

0.092

T

Source: Data Processeed (2023)

Financial Behavior

The results of the multicollinearity test show that the tolerance value of the independent variables is above 0.10 (10 Percent) and the VIF value is below 10, so it can be concluded that the model does not have symptoms of multicollinearity.

0.399

0.000

4.714

Heteroscedasticity Test

The results of the heteroscedasticity test in this study can be seen in the table below

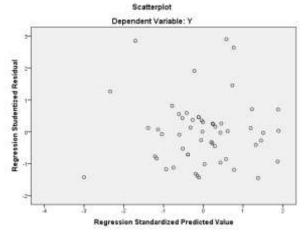


Figure 2. Heteroscedasticity Test Results Source: Data Processeed (2023)

0.686

VIF

1.458

1.458

The figure above shows the results of the heteroscedasticity test using the scatterplot graph method. From the figure, it can be seen that the points obtained form an irregular random pattern and are spread above and below zero on the Y axis, so that in the regression model that will be formed, no violations of heteroscedasticity are found, so it can be said that the regression model is suitable for use.

Hypothesis Test Results (Partial Test)

To be able to answer the previously stated hypothesis, multiple linear regression can be used as the processing results of the table 6. Based on the output of the data processing above, the financial literacy variable (X1) and financial behavior (X2) have a significance value of <0.05, meaning that the variable shows a relationship between financial literacy (X1) and financial behavior (X2) on investment decisions (Y). So the hypothesis that states the influence of financial literacy (X1) and financial behavior X2 on investment decisions Y can be accepted.

Based on these results, it can be concluded that the understanding of financial literacy possessed by Widyatama University's S1 Management students on financial management is quite good, as seen from the results of the questionnaire which can be concluded that students are better at managing their personal finances, so that the income or pocket money owned by students is not spent on consumptive things, but rather for savings or investment. So, it can be said that by understanding financial literacy, Widyatama University's S1 Management students are better at managing finances and limiting expenses, such as when students choose not to be wasteful and prefer to set aside their money to invest based on the financial knowledge they have.

Financial literacy is an important factor that influences students' investment decisions. Research consistently shows that financial literacy is important for students to make informed investment decisions and avoid potential pitfalls (Febrynanda & Martono, 2023). Studies have shown a positive correlation between the level of financial literacy and the quality of investment decisions made by students (Ashfaq, 2023). In addition, financial literacy has been shown to have a significant impact on investment decisions when considered alongside other factors such as income (Ekanagara, 2023). It has also been shown that financial literacy can act as a mediating variable between behavioral biases and investment decisions, moderating the relationship between biases and investment choices (Khan et al., 2023). In addition, financial literacy has been identified as an important factor influencing investment intentions, particularly with regard to risk tolerance and planned behavior (Rizani, 2024).

The positive relationship between financial literacy and investment decisions has been consistently supported by various studies (Fathihani et al., 2021). Financial literacy not only directly influences investment decisions but also serves as a mediating factor, with risk tolerance playing a role in this relationship (Mandal et al., 2023). Increasing financial literacy among students has been suggested to lead to improved risk management and ultimately wiser investment decisions (Fikriyah & Suhartini, 2023).

4. Conclusion

The results of this study indicate that the financial literacy variable has an influence on the investment decisions of undergraduate management students at Widyatama University, this means that the more students understand financial literacy, the better they will be at considering their financial management and will be more confident in making investment decisions. Furthermore, the financial behavior variable has an influence on the investment decisions of undergraduate management students at Widyatama University, this means that the more students understand financial behavior, the better it will be for students to be good at managing their finances and limiting their spending, such as when students choose not to be wasteful and prefer to set aside their money to invest. The results of this study are expected to provide an overview of how important it is for students to be more aware that financial literacy and financial behavior are important in managing finances because they can improve understanding and help in managing personal financial literacy and financial behavior are the main factors in

planning and financial goals, financial management, and making investment decisions where the investment will later be useful for the future. The implications of this research can be used to design educational programs, public policies, and other initiatives aimed at increasing financial literacy and healthy financial behavior among college students.

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