

FINANCIAL LITERACY, INVESTMENT HORIZONS AND SPECULATIVE STOCK CHOICES: A STUDY IN THE VIETNAM STOCK MARKET

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ABSTRACT

Financial literacy plays an important role in financial decisions. However, the relationship between financial literacy, investment horizon, and risk-taking decisions has still been underexplored. Therefore, this study investigates the effects of financial literacy on speculative stock choices. Based on 450 individual investors, the results show that financial literacy affects short-term investment and speculative stock choices. Financially literate investors are more likely to invest in short term stocks and choose speculative stocks. Finally, short investment horizons is directly associated with speculative stock choices, and financial literacy is indirectly related to speculative stock choices via short investment horizons. This implies that financially savvy investors should allocate their portfolios appropriately between short-term and long-term investments to avoid losses due to market volatility.

Keywords: Financial literacy, investment horizons, speculative stock choices, Vietnam

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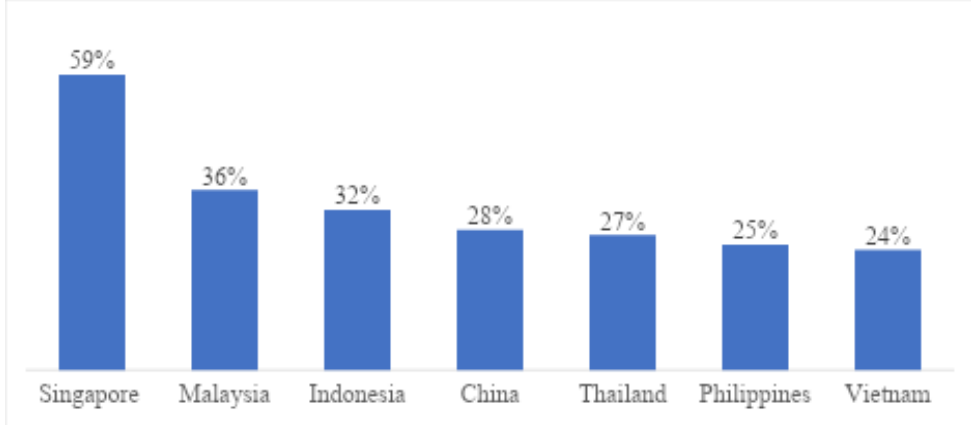
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1. INTRODUCTION

Financial literacy plays an important role in financial decisions and economic growth (Mahdzan et al., 2024; Phung, 2023). However, it is generally very low in the world. According to research by Klapper and Lusardi (2020), only one in three adults has a good understanding of finances. Bolognesi et al. (2020) confirmed that only 19% of generation Y confidently answered questions about basic financial literacy correctly. In Vietnam, the financial literacy of Vietnamese (24%) is at the lowest level compared to that of other Asian countries such as Singapore (59%), Malaysia (36%), Indonesia (32%), China (28%), Thailand (27%) and Philippines (25%), as shown in Figure 1 (Klapper and Lusardi, 2020).

Figure 1: Financial Literacy Levels among some Asian Countries (Klapper & Lusardi, 2020)



Regarding investment horizons, according to Fang et al. (2018), the focus of investment strategies is the investment horizons of stocks, defined as short-term or long-term holding periods. Short-term holding periods are less than one year and long-term holding periods are one year or more. Barber et al. (2014) confirm that short and very short trading periods are a vital equilibrium element, as it accounts for 17% of all volume on the Taiwan Stock Exchange. Individuals tend to invest in risky assets; especially for long-term investment (Rieger et al., 2021). Investors with a 5-year (or 10-year) investment horizons are more likely to choose risky stocks than investors with a 1-year investment horizons in Germany (Siebenmorgen & Weber, 2004). Long-term traders have the greatest influence on the P2P market volatility (Fang et al., 2018). These can be explained based on the standard finance theory, which focuses on the tradeoff between risk and return. That is, investors will accept a level of risk in order to expect higher returns.

While many studies explore the impact of financial literacy on financial decisions such as stock market participation (Van Rooij et al., 2012), borrowing (Hamid & Loke, 2021), savings (Hastings & Mitchell, 2020) and debt decisions in the stock market (Phung et al., 2022), very few examine the relationship between financial literacy and investment horizons (Bala & Jayanti, 2025; Kim et al., 2026). Therefore, this study fills that gap by investigating the relationships between financial literacy, investment horizons and speculative stock choices.

The research has the following contributions. First, this is the first study to investigate the effects of financial literacy on investment horizons and speculative stock choices. The results show that a higher level of financial literacy is positively associated with short investment horizons and speculative stock choices. Second, the study finds a mediating role of short investment horizons in the relationship between financial literacy and speculative stock choices. Finally, this study uses three multivariate regression methods, ordinal logit, and linear structure to test the hypotheses. The results are robust to the alternatives.

The remainder of this study is organized as follows. Section 2 provides a literature review and hypotheses formation. Section 3 displays the methodology, including the survey process, techniques, measures, reliability tests, and correlation tests. Section 4 presents the results and discussion. Section 5 ends with conclusions, implications and further research.

2. LITERATURE REVIEW

2.1 Theoretical Background

The theoretical foundation of this study is grounded in Finance Theory and Social Learning Theory (SLT). The Finance theory, including standard and behavioral finance, has different perspectives on the trade-off between risk and return. In the standard finance framework, it assumes that investors are always risk averse and that risk-averse investors accept higher risks to compensate for higher returns. As a result, the relationship between risk and return is positive; that is, “higher risk, higher expected returns. However, proponents of behavioral finance debate that the linkage between risk and returns is not always positive; Instead, its impact can be positive or negative depending on the decision-maker's perception of risk, stemming from intuitive judgment, cognitive bias, and experiential bias (Kahneman & Tversky, 1979).

Furthermore, financial literacy is defined as the ability to understand and apply basic financial concepts to financial decisions (Lusardi & Mitchell, 2014). Current research documents that individuals with high financial literacy will have good personal financial management such as use of credit cards (Hamid & Loke, 2021), retirement savings and household wealth (Hastings & Mitchell, 2020; Van Rooij et al., 2012), low-cost borrowing (Huston, 2012), and budgeting behavior (Phung, 2023).

Financial literacy is explained based on Social Learning Theory (SLT) developed by Bandura (1986). SLT emphasizes the role of environmental factors in shaping decision making and focuses on three aspects. First, the ability to learn through observation will help investors limit or avoid mistakes that other people have already made. In other words, learning from experience helps them improve activities and avoid problems. Second, the ability to consider issues carefully through experience will help investors solve problems, predict possible outcomes, and adjust the situations more appropriately. Finally, the ability to promote self-regulation will help investors better manage and control activities to make informed decisions.

Balloch et al. (2014) assert that financial knowledge is an investment cost but helps decision-makers make more informed choices. Therefore, we argue that investors with adequate financial

knowledge can better control behavioral biases and make more informed choices: that is, they will accept higher risks to achieve higher returns, which is consistent with the Financial Theory.

2.2 Related Research and Hypothesis Formation

Short-term holding periods are less than one year (Fang et al., 2018). There are very few studies on investment horizons and the relationship between financial literacy and short-term stock investments. For example, Fang et al. (2018) find that short-term and long-term investments have an impact on the peer-to-peer lending market in China. Kim et al. (2022) examine stock returns in the Korean equity market and conclude that investors with long-short equity strategies based on the sentiment changes earn the highest returns. Zhang et al. (2023) investigate the role of investment strategy in the relationship between financial education and stock investment performance in China and find that individual investors with high levels of financial education are more likely to achieve higher returns. Bala and Jayanti (2025) conduct a survey of data on young Indian people (who are not actual investors) and find that higher levels of financial literacy are associated with long-term investment. Kim et al. (2026) analyze data from U.S. investor surveys and find differences in investment horizons based on objective and subjective investment literacy. Specifically, objective investment literacy is positively associated with long-term investing but negatively associated with short-term investing. Subjective investment literacy has a positive association with short-term investing. These results are consistent with the research of Bianchi (2018), who asserts that individuals with higher levels of education own riskier assets due to higher expectations of return. Based on these results, the study proposes the following hypothesis:

H1: Higher levels of financial literacy are associated with a higher proportion of short-term investments in a portfolio.

Financial literacy also affects risky financial decisions. For example, Zhu and Xiao (2022) examine households' financial literacy in China and find that financial literacy has an impact on risky financial asset holdings such as stocks, bonds, and mutual funds. Bayar et al. (2020) investigate the association between financial literacy and financial risk tolerance among individual investors in Turkey. The findings reveal that financial literacy is significant in explaining financial risk tolerance. Previous studies (e.g., Amonhaemanon, 2022; Hu & Liu, 2025; Phung, 2025) also find a positive relationship between financial literacy and risk-taking behavior, confirming that investors with adequate financial literacy tend to accept higher risks because they expect higher returns. With that in mind, the following hypothesis is proposed:

H2: Financial literacy is positively associated with speculative stock choices.

There are several studies that focus on investment horizons and its effect on risky financial decisions. For example, daily trading has an association with speculative behavior (Barber et al., 2014; Bui et al., 2022; Ham et al., 2022). For one-year investment or more, investors with a one-year investment horizons are more likely to invest in lower-risk assets than investors with a five-year investment horizons, as underestimation of long-term risks leads to a higher proportion of risky assets in the long-term portfolios (Siebenmorgen & Weber, 2004). Rieger et al. (2021) report that investors tend to invest in risky stocks for 1 year and 10 years; and that the longer the

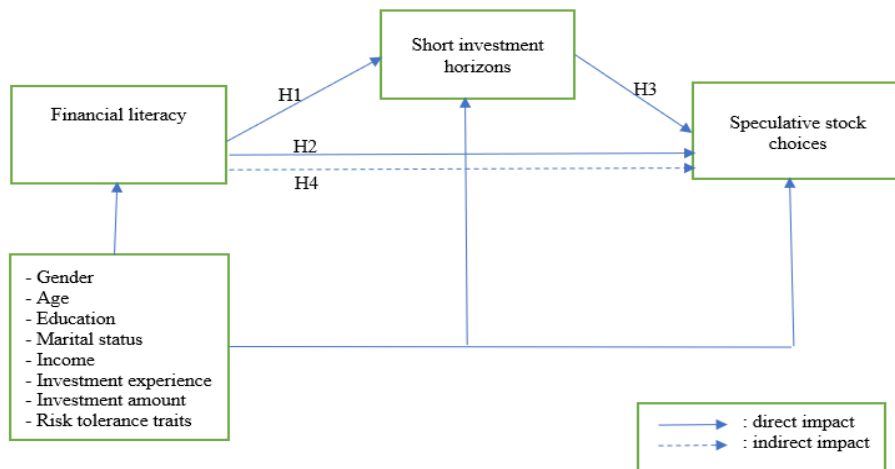
investment horizons, the riskier the investment in financial assets. Based on evidence, the following hypotheses are suggested:

H3: Short investment horizon is positively associated with speculative stock choices.

H4: Short investment horizon mediates between financial literacy and speculative stock choices.

Literature also establishes the relationship between demographics and risk-taking behavior across countries (Bannier & Neubert, 2016; Brooks et al., 2019; Grable et al., 2022). For example, Phung et al. (2021) conduct research in the Vietnamese stock market and report some key demographic factors explaining trading frequency and risk-taking behavior. Male investors trade less frequently than female investors. More investment experience is associated with trading more frequently and taking on more risk. Higher income is associated with higher risk taking. Thanki et al. (2022) survey investors in the Gujarat region and find both marital status and income as predictors of financial risk tolerance for both male and female investors. Bayar et al. (2020) investigate investors in Turkey and report that ages, education level, income and dependents have a significant impact on risk-taking behavior. Given the evidence, this study proposes several demographics as control variables, including gender, age, education, marital status, income, investment experience, investment amount and risk tolerance traits.

Figure 2: The Conceptual Framework



Source: collected by the authors

3. METHODOLOGY

3.1 Survey Process and Methods

Our survey data were collected from October 2023 to June 2024 using three phases (interview, scales development and survey). First, we interviewed ten Vietnamese investors about their investment horizons and the risky stocks in their portfolios. According to the interview results,

investors tend to invest more in the short term than the long term, and hold approximately 10% to 20% of their stocks in speculative positions. Second, we developed the Vietnamese scales for investment horizons and speculative stock investment based on the literature (Gaspar et al. 2005; Fang et al., 2018; Weber et al., 2002). Next, we conducted a pilot test with 50 investors ($N = 50$) to check the reliability of the variables (Hair et al., 2014). Finally, questionnaires were sent online to investors through social media (such as Facebook, Zalo, websites) and group emails of the securities companies. The final data was 450 ($N = 450$).

This sample size (450 investor respondents) is consistent with the guidelines (Hair et al., 2014) and previous studies (Bayar et al., 2020; Phung et al., 2021). Namely, according to Hair et al. (2014), each category should have at least 20 observations and therefore, the number of respondents should be at least 220 ($11 \text{ variables} \times 20$) (see Figure 4). In addition, this sample size is equivalent or larger than previous studies such as (Phung et al., 2021) with 418 investor respondents and (Bayar et al., 2020) with 325 observations. Regarding ethical issues, the questionnaire has an introduction that includes the purpose of this study and the importance of their responses. It also publicly discloses the authors' email address. More importantly, it emphasizes that answering to the survey questions is a completely voluntary activity and only serves scientific research purposes. Therefore, personal information of respondents is kept confidential.

Three techniques are used for testing hypotheses and causal relationships, including multiple linear regression (MLR), Ordinal Logit (Logit) and structural equation model (SEM) with two reasons. First, according to the guideline (Hair et al., 2014), respondent biases are eliminated from various tests such as face validity and discriminant analysis. Face validity is measured through consistency of responses and response durations, while discriminant analysis focuses on subsamples and different methods. Second, previous studies confirm that applying multiple different regression methods makes the results more robust and reliable (Phung, 2023, 2025).

This study also examined the overall fit of the OLS model through Chi-square, R-square, correlation coefficient, multicollinearity test – VIF and SEM using Chi-square ≤ 0 ; GFI > 0.9 ; AGFI > 0.9 ; TLI > 0.9 (Hair et al., 2014). According to Hair et al. (2014), SEM is the best technique for identifying important mediating factors for indirect effects. This is because only SEM can directly handle measurement errors and test models with multiple independent and dependent variables, while other methods such as OLS and logit regression only test models with a single dependent variable (Hair et al., 2014).

3.2 Measures and Significance Levels

There are 11 variables in this research model. Among them, three main variables are financial literacy, short investment horizons and speculative stock choices. Financial literacy is the main independent variable and measured through 16 questions developed by Van Rooij et al. (2012). Respondents will attain 1 point for each correct answer.

Short-time investment horizons is a mediator (both independent and dependent variable). The investment portfolio includes short (less than 1 year) and long (1 year or more) investment horizons, showing that the maximum total short and long investment terms of a regular investment

portfolio equal to 100%. The question is based on Fang et al.(2018); Gaspar et al. (2005), and Rieger et al. (2021). “*Overall, in your portfolio, how much do you invest in stocks for a period of less than 1 year*” on the scale from 0% to 100%. For example, if a respondent rates 40% for less than 1 year, that means 60% for 1 year or more. Therefore, to avoid multicollinearity between short and long investment horizons, this study only considers short investment horizons.

Speculative stock choices is a dependent variable and measured through the question “*Overall, in your portfolio, how much do you invest in very speculative stocks?*” on a scale from 1 (less than 10%); 2 (10% - <30%); 3 (30%); 4 (>30% - 50%) and 5 (more than 50%) (Weber et al., 2002). Overall, these main variables are continuous variables. This variable is consistent with previous studies using a single question as the dependent variable (Phung et al., 2021; Phung, 2025).

Control variables include gender, age, education, marital status, income, investment experience, investment amount and risk tolerance traits. These control variables are widely used the previous studies mentioned above (Bayar et al., 2020; Phung et al., 2021; Thanki et al., 2022).

Regarding the significance level, according to small sample size guidelines (Stevens, 2012), this study applies a significance level from 1% to 10% to test the cause and effect relationship. This is also confirmed by previous studies (Ma & Cao, 2019; Phung et al., 2021; Shi et al., 2022).

4. RESULTS AND DISCUSSION

4.1 Data Description

Table 1 summarizes characteristics of respondents (N=450). Gender (Mean = 0.62) shows that male investors make up 62 percent of the sample and female investors make up 38 percent. Age (Mean = 1.96) and Education (Mean = 2.06) indicate that the majority of investors is under 35 and has a university degree. Marital status (Mean = 0.38) shows that married investors constitute 38 percent of the sample and single investors account for 62 percent. On average, investors earn a monthly income of nearly USD 2,500, have up to 5-years investment experience and annual investment amount of around USD 25,000. Risk tolerance scores (Mean = 2.64) suggest that most investors are willing to take risks.

Regarding investors' financial literacy, investors have an average financial literacy score of 9.55, with the lowest score of 0 and highest score of 15. Figure 2 also shows that the highest proportion (15.6%) of investors obtain a financial literacy score of 11/16 and 0.9% (the lowest proportion) of investors achieve 15/16 (the highest score). The data also shows that investors' financial literacy is generally at a fairly good level, which is consistent with previous studies (Phung et al., 2021; Van Nguyen et al., 2022) but not consistent with Klapper and Lusardi (2020) where they find financial literacy levels in Vietnam are still low. The reason is that this study focuses on individual investors with mainly university degrees, while Klapper and Lusardi (2020) investigate Vietnamese adults at all levels of education.

Short-time investment (Mean = 60.58) shows that investors divide 60% into short-time investment. Figure 4 also reports that the highest proportion (17.3%) of investors completely invests in stocks

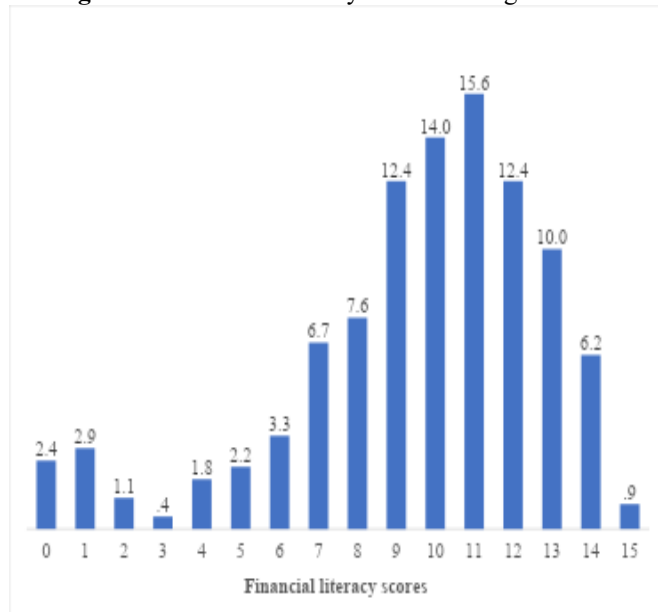
for a short time (100% short investment horizons), followed by 17.1% of investors allocating 70% to short investment horizons. For speculative stock choices ($M = 3.14$), it shows that investors tend to divide 30% or more into speculative stocks, on average.

Table 1: Data Description (N =450)

Variables	Mean	Median	Std. Deviation	Min	Max
Gender	0.622	1	0.485	0	1
Age	1.964	2	0.660	1	3
Education	2.058	2	0.373	1	3
Marital status	0.380	0	0.486	0	1
Income	2.544	3	0.596	1	3
Investment experience	1.762	1	1.025	1	4
Investment amount	1.642	1	1.046	1	5
Risk tolerance traits	2.640	3	0.743	1	4
Financial literacy	9.547	10	3.326	0	15
Short investment horizons	60.584	60	26.308	0	100
Speculative stock choices	3.142	3	1.470	1	5

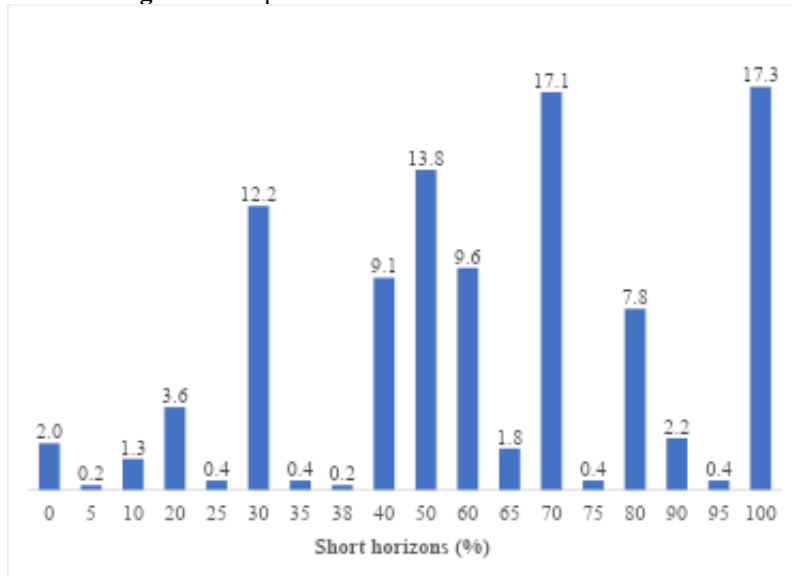
Source: collected by the authors

Figure 3: Financial Literacy Levels among Investors



Source: collected by the authors

Figure 4: Proportion of Short-Term Stock Investment



Source: collected by the authors

This study also examines the correlation between variables and the results are presented in Table 2. Financial literacy is positively correlated short investment horizons (0.109*) and speculative stock choices (0.180**), showing that as financial literacy increases, short-term stock investment and speculative stocks chosen by investors also increase and vice versa. In addition, financial literacy has a positive correlation with gender (0.105*), education (0.220**), income (0.1*), and financial risk tolerance (0.221**).

Speculative stock choices are positively correlated with investment experience at 0.232** and investment amount at 0.217**, meaning that as investment experience and amount of money increase, so do speculative stock choices and vice versa.

Table 2: Correlation Test Results

Variables	FL	1	2	3	4	5	6	7	8	9
1.GEN	0.105*									
2.AGE	-0.03	0.229**								
3.EDU	0.220**	0.109*	0.171**							
4.MAR	-0.01	0.09	0.563**	0.186**						
5.INC	0.100*	0.232**	0.450**	0.253**	0.319**					
6.EXP	0.09	0.164**	0.534**	0.182**	0.428**	0.402**				
7.WEALTH	0.04	0.137**	0.443**	0.150**	0.404**	0.426**	0.569**			
8.RITO	0.221**	0.02	0.03	0.04	-0.03	0.08	0.098*	0.129**		
9.SHORT	0.109*	0.00	-0.06	0.09	-0.07	-0.05	-0.03	-0.04	0.04	
10.CHOICE	0.180**	0.08	0.07	0.05	0.05	0.160**	0.232**	0.217**	0.147**	0.093*

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: collected by the authors

4.2 Determinants of Short Investment Horizons

This study developed four models (1-4) and employed three techniques of MLR, OLR and SEM to examine determinants of short investment horizons, *SHORT*. The results are shown in Table 3 and Figure 5. Overall, adjusted R squares are small, which is consistent with previous studies on financial literacy (Bucher-Koenen et al., 2024; Lusardi & Mitchell, 2007). Ozili (2023) also emphasizes that a model with a low R-squared coefficient is not necessarily bad, as the goal is to assess whether specific predictor or explanatory variables have a significant influence on the dependent variable.

Financial literacy is the main independent variable and measured in many forms such as continuous variables in Model (1); dummy variable (above average = 1) in Model (2), basic and advanced FL in Model (3) and mediator in Model (4). The sake of this is to ensure a strong impact of financial literacy on short investment horizons for any form of financial literacy.

The results show that financial literacy affects *SHORT* and this influence is consistent for all three methods. Specifically, in Models (1) and (4), financial literacy has a coefficient of 0.705* with *SHORT*, meaning that financially literate investors are more likely to invest in stocks for the short term. The coefficient of -0.549* in (2) shows that investors with lower levels of financial literacy tend to invest less in the short term. Model (3) with coefficient of 14.826** suggests that investors with higher advanced financial literacy are more likely to invest for the short term.

In addition, education also has an influence on *SHORT*. Specifically, the coefficient of 7.084** in Models (3) and (4) shows that educated investors are more likely to invest for the short term. Model (2) with coefficient of -1.145** means that high-school investors have a lower tendency to invest for the short term than investors with master's degrees.

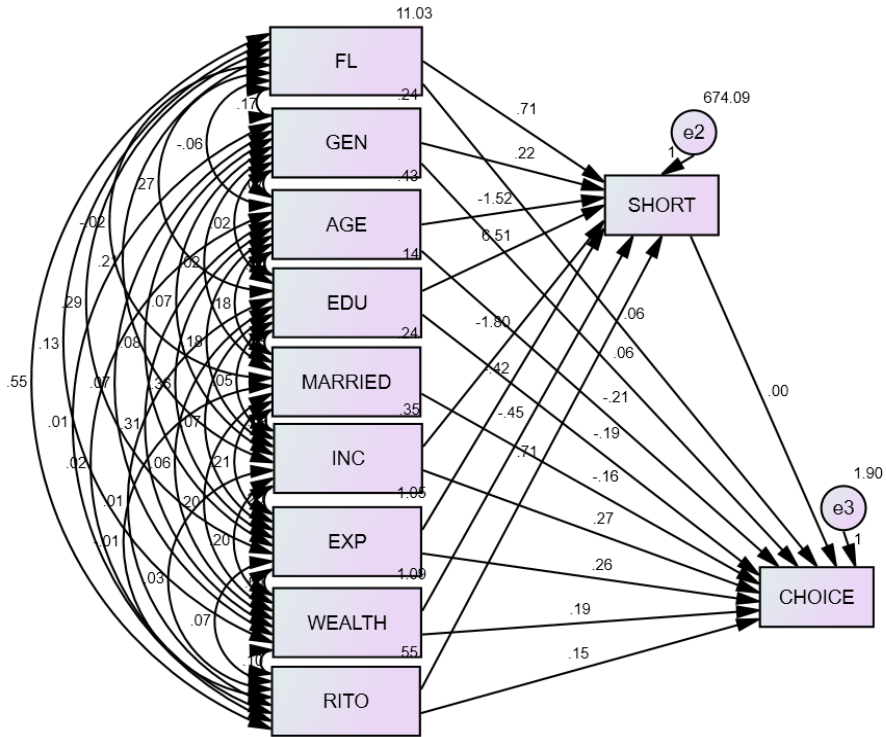
Table 3: Determinants of Short Investment Horizons

IVs	(1) MLR	(2) OLR	(3) MLR	(4) SEM1
<i>Financial literacy</i>	0.705 (1.781)*			0.700 (1.785)*
<i>Financial literacy</i> (below vs above average)		-0.549 (2.865)*		
<i>Basic financial literacy</i>			0.107 (0.02)	
<i>Advanced financial literacy</i>			14.826 (2.141)**	
<i>Gender</i> (Male = 1)	0.128 (0.048)		0.097 (0.036)	0.041 (0.015)
<i>Female</i> = 0		-0.007 (0.001)		
<i>Ages</i>	-0.445 (-0.171)		-0.145 (-0.056)	-0.603 (-0.232)
<i>Under 35 vs 35 or older</i>		-0.007 (0.001)		
<i>Education</i>	7.084 (2.005)**		6.794 (1.931)*	6.795 (1.949)**
<i>High school vs Master or higher</i>		-1.145 (4.943)**		
<i>Marital status</i> (= 1)	-3.027 (-0.946)		-3.043 (-0.952)	-2.961 (-0.932)
<i>Single</i> = 0		0.175 (0.636)		
<i>Monthly income</i>	-2.305 (-1.099)		-2.378 (-1.136)	-1.665 (-0.692)
<i>Under 50 million vs 50 million or more</i>		0.377 (0.799)		
<i>Investment experience</i>	-0.157 (-0.098)		-0.204 (-0.127)	-0.271 (-0.170)
<i>Under 5 years vs 10 years or more</i>		0.035 (0.009)		
<i>Investment amount</i>	-0.007 (-0.004)		-0.08 (-0.052)	-0.250 (-0.168)
<i>Under 200 million vs over 3 billion</i>		0.177 (0.121)		
<i>Risk tolerance traits</i>	0.575 (0.332)		0.26 (0.15)	0.571 (0.333)
<i>Less vs more risk tolerance</i>		0.035 (0.006)		
Intercept				
-2 Log Likelihood	46.014***	1740.837	45.099***	
Pseudo R-Square/Adjust R ² /R ²	0.007	0.046	0.012	0.03
F Change/Chi-square	1.376***	76.341***	1.525***	3.874***
Df	9	20	10	2

***: p<1%; **: p<5%; *: p<10%; Dependent variable: Short investment horizons. MLR: multiple linear regression; OLR: Ordinal Logit, SEM: structural equation model. T-test in parentheses. SEM model fit indicators: GFI = 1.000; AGFI = 0.977; TLI = 1.009; RMSEA = 0.004.

Source: collected by the authors

Figure 5: Structural Equation Model (Sem1)



Note: FL: financial literacy; GEN: gender; AGE: ages; EDU: education; MARRIED: marital status; INC: income; EXP: investment experience; WEALTH: investment amount; RITO: financial risk tolerance; SHORT: short investment horizons; CHOICE: speculative stock choices.

Source: collected by the authors

4.3 Determinants of Speculative Stock Choices

The study examines factors affecting speculative stock choices (*CHOICE*) through 4 models (1-4) and 3 methods of MLR, OLR and SEM. The results are presented in Table 4 and Figure 5.

All 4 models show that financial literacy has an impact on speculative stock choices, *CHOICE*. Specifically, in Models (1) and (4), the coefficient of 0.06*** between financial literacy and *CHOICE* means that the higher the financial literacy, the more the speculative stock choices. The coefficient of -0.502** in (2) shows that investors with a low level of financial literacy are more likely to choose speculative stocks than investors with a high level of financial literacy. In (3), advanced financial literacy is positively associated with *CHOICE* at 0.659*, meaning that investors with higher advanced financial literacy are more likely to choose speculative stocks.

Next, short investment horizons has a positive association with *CHOICE* at 0.005** (see Models 1, 3 and 5), showing that investors who tend to invest more in the short term are more likely to choose speculative stocks. Model 2 also shows that investors with less than 50% short investment horizons are less likely to choose speculative stocks than investors with more than 50% short investment horizons. However, this linkage is not significant.

Regarding demographics, ages have a coefficient of 0.622** in (2) meaning that investors under 35 years old choose more speculative stocks than investors over 35 years old. Coefficient of 0.261** between income and *CHOICE* and 0.263 *** between experience and *CHOICE* in (1), (3) and (4) shows that higher income and more experience are positively associated with speculative stock choices. *CHOICE* has a link with investment amount at 0.186** and with risk tolerance traits at 0.156* (see Models 1, 3 and 4), showing that investors with larger amount of investment and risk-tolerant investors are more likely to choose speculative stocks.

Table 4. Determinants of Speculative Stock Choices

IVs	(1) MLR	(2) OLR	(3) MLR	(4) SEM1
<i>Financial literacy</i>	0.060 (2.829)***			0.060 (2.858)***
<i>Financial literacy</i> (below vs above average)		-0.502 (4.974)**		
<i>Basic financial literacy</i>			0.283 (1.005)	
<i>Advanced financial literacy</i>			0.659 (1.778)*	
<i>Short investment horizons</i>	0.005 (1.914)**		0.005 (1.950)**	0.005 (1.938)**
<i>Short investment horizons</i> (below vs above average)		-0.302 (2.424)		
<i>Gender</i> (Male = 1)	0.058 (0.408)		0.058 (0.408)	0.058 (0.412)
<i>Female</i> = 0		0.004 (0.001)		
<i>Ages</i>	-0.209 (-1.494)		-0.209 (-1.494)	-0.209 (-1.508)
<i>Under 35 vs 35 or older</i>		0.622 (4.927)**		
<i>Education</i>	-0.156 (-0.833)		-0.156 (-0.833)	-0.156 (-0.841)
<i>High school vs Master or higher</i>		-0.409 (0.590)		
<i>Marital status</i> (Married = 1)	-0.174 (-1.016)		-0.174 (-1.016)	-0.174 (-1.026)
<i>Single</i> = 0		0.306 (1.819)		
<i>Monthly income</i>	0.261 (2.014)**		0.261 (2.014)**	0.261 (2.034)**
<i>Under 50 million vs 50 million or more</i>		-0.516 (1.418)		

<i>Investment experience</i>	0.263 (3.036)***		0.263 (3.036)***	0.263 (3.067)***
<i>Under 5 years vs 10 years or more</i>		-0.679 (3.096)*		
<i>Investment amount</i>	0.186 (2.325)**		0.186 (2.325)**	0.186 (2.349)**
<i>Under 200 million vs over 3 billion</i>		-0.590 (1.235)		
<i>Risk tolerance traits</i>	0.156 (1.679)*		0.153 (1.659)*	0.153 (1.675)*
<i>Less vs more risk tolerance</i>		-0.338 (0.500)		
Intercept (-2 Log Likelihood)	1.501***	1069.692	1.486***	
Pseudo R-Square/Adjust R2/R2	0.096	0.157	0.093	0.114
F Change/Chi-square	6.292***		5.612***	3.874***
Df	9	20	10	2

***: $p < 0,01$; **: $p < 0,05$; *: $p < 0,1$. Dependent variable: speculative stock choices (CHOICE). MLR: multiple linear regression; OLR: Ordinal Logit, SEM: structural equation model. T-test in parentheses. SEM model fit indicators: GFI = 1.000; AGFI = 0.977; TLI = 1.009; RMSEA = 0.004.

Source: collected by the authors

4.4 Determinants of Financial Literacy

The study examines factors affecting financial literacy through 5 models (1-5) and 3 methods of MLR, OLR and SEM. Financial literacy is also tested based on overall, basic, and advanced levels (see Table 5). According to Van Rooij et al.(2012), basic financial literacy includes knowledge about interest rates, compound interest, inflation, discounting, and nominal value against real value. Advanced financial literacy involves knowledge of financial markets such as the difference between stocks and bonds, stock market functions, risk diversification, and bond prices. Following Van Rooij et al.(2012), this study will examine important demographic predictors of overall, basic, and advanced financial literacy.

The results are presented in Table 5 and Figure 5, showing that gender, age, education, investment experience and risk tolerance traits have an impact on financial literacy. Details are presented as follows:

Gender (Male = 1) and financial literacy have a coefficient of 0.571* in Models (1) and (3), meaning that male investors have higher financial literacy than female investors. Financial literacy and Gender (Female = 0) in Model (2) have a coefficient of -0.389**, showing that female investors have a lower level of financial literacy than male investors.

Ages have a coefficient of -0.725*** (see Models 1 and 3), showing that the older the age, the lower the financial literacy. Model (5) shows that ages have a coefficient of -0.054*** with advanced financial literacy, meaning the older the age, the lower the advanced financial literacy.

In Model (2), the coefficient of 0.519* with financial literacy shows that investors under 35 years old have higher financial literacy than investors over 35 years old.

Education has a coefficient of 1.799*** in (1) and (3), 0.110*** in (4) and 0.105*** in (5), meaning that a higher level of education is associated with a higher level of financial literacy. The coefficient -0.8*** in (2) shows that investors with high school degrees have lower financial literacy than investors with master's degrees or higher.

Investment experience and financial literacy have coefficients of 0.324* (see Models 1 and 3), meaning that more experienced investors have a higher level of financial literacy. The coefficient of -0.943** in Model (2) means that investors with less than 5 years of experience have lower financial literacy than investors with 10 years of experience. Investment experience is not statistically significant in explaining basic or advanced financial literacy.

Risk tolerance traits and financial literacy have coefficients of 0.917*** in (1) and (3), meaning that more risk-tolerant investors have a higher level of financial literacy. The coefficient of -1.137*** in (2) shows that less risk-tolerant investors have a lower level of financial literacy. Risk tolerance traits have a coefficient of 0.033* in (4) and 0.065*** in (5) showing that the more the risk tolerance, the higher their basic and advanced financial literacy are.

Table 6: Determinants of Financial Literacy

IVs	Financial literacy			Basic FL	Advanced FL
	MLR (1)	OLR (2)	SEM2 (3)	MLR (4)	MLR (5)
<i>Gender</i> (Male = 1)	0.571 (1.779)*		0.571 (1.828)*	0.043 (1.555)	0.03 (1.416)
<i>Female</i> = 0		-0.389 (4.514)**			
<i>Ages</i>	-0.725 (-2.312)***		-0.725 (-2.680)***	-0.02 (-0.755)	-0.054 (-2.633)***
<i>Under 35 vs 35 or older</i>		0.519 (3.710)*			
<i>Education</i>	1.799 (4.339)***		1.799 (4.361)***	0.110 (3.112)***	0.105 (3.909)***
<i>High school vs Master or higher</i>		-0.800 (7.075)***			
<i>Marital status</i> (Married = 1)	-0.144 (-0.373)		-0.144 (-0.376)	-0.034 (-1.018)	-0.005 (-0.219)
<i>Single</i> = 0		0.286 (1.713)			
<i>Monthly income</i>	0.415 (1.423)		0.415 (1.416)	0.031 (1.256)	0.021 (1.101)
<i>Under 50 million vs 50 million or more</i>		-0.221 (0.279)			
<i>Investment experience</i>	0.324 (1.676)*		0.324 (1.662)*	0.021 (1.289)	0.019 (1.489)
<i>Under 5 years vs 10 years or more</i>		-0.943 (6.359)**			
<i>Investment amount</i>	-0.124		-0.124	-0.014	0.001

	(-0.686)		(-0.755)	(-0.890)	(-0.017)
<i>Under 200 million vs over 3 billion</i>		-0.125 (0.061)			
<i>Risk tolerance traits</i>	0.917 (4.511)***		0.917 (4.607)***	0.033 (1.925)*	0.065 (4.892)***
<i>Less vs more risk tolerance</i>		-1.137 (8.127)***			
Intercept	3.125***	1674.06***		0.217***	0.212***
-2 Log Likelihood					
Pseudo R- Square/Adjust R2/R2	0.101	0.157	0.117	0.036	0.098
F Change/Chi-square	7.335***		3.874***	3.115***	7.096***
Df	8	18	2	8	8

***: $p < 0,01$; **: $p < 0,05$; *: $p < 0,1$. Dependent variable: Financial literacy. MLR: multiple linear regression; OLR: Ordinal Logit, SEM: structural equation model. T-test in parentheses. SEM2 model fit indicators: GFI = 0.998; AGFI = 0.949; TLI = 0.937; RMSEA = 0.046.

Source: collected by the authors

4.5 Mediating Analysis of Short Investment Horizons

This study examines mediating roles of short investment horizons in the linkage between financial literacy and speculative stock choices. The results, as shown in Table 6, report that financial literacy has a direct impact on *SHORT* at 0.707** (see column 1) and *CHOICE* at 0.056** (see column 2). In addition, financial literacy also has an indirect influence on *CHOICE* through *SHORT* at 0.004**, suggesting that financially literate investors are more likely to invest for the short term, which leads them to choose more speculative stocks.

In summary, the results show that financial literacy has both direct and indirect effects on speculative stock choices (*CHOICE*). As for demographic factors, investment amount, investment experience, income and risk tolerance traits have a direct influence on *CHOICE* while education has an indirect impact on *CHOICE*.

Table 7: A Summary of Direct and Indirect Relationships

IVs	SHORT	CHOICE	
	Direct effect	Direct effect	Indirect effect through SHORT
	(1)	(2)	(3)
Financial literacy	0.707**	0.056**	0.004**
Risk tolerance traits	0.712	0.15**	0.004
Investment amount	-0.452	0.187***	-0.002
Investment experience	-0.422	0.262**	-0.002
Income	-1.799	0.269**	-0.009
Education	6.514*	-0.189	0.033*
Gender	0.223	0.058	0.001
Age	-1.519	-0.206	-0.008
Short investment horizons		0.005**	

***: $p < 0,01$; **: $p < 0,05$; *: $p < 0,1$. Dependent variable: speculative stock choices (CHOICE); Mediator variable: short investment horizons (SHORT). These results are extracted from SEM1.

Source: collected by the authors

4.6 Discussion

This study provides insights into the relationships between financial literacy, investment horizons and risk-taking behaviors and therefore, four hypotheses H1-H4 are accepted. A summary of the hypotheses results is presented in Table 7.

First, financial literacy directly affects short investment horizons (H1), showing that financially literate investors are more likely to invest in stocks for the short term. This finding is consistent with (Kim et al., 2026) and adds to the literature along with previous studies such as the link of financial literacy and investment outcomes (Zhang et al., 2023); equity strategies and returns (Kim et al., 2022); investment horizons and lending market (Fang et al., 2018).

Second, financial literacy is directly related to speculative stock choices (H2), proposing that investors with high levels of financial literacy are more likely to choose speculative stocks. This result is consistent with previous research (Bayar et al., 2020; Zhu & Xiao, 2022) that financial literacy has an association with risky financial decisions.

Finally, short investment horizons is directly associated with speculative stock choices (H3) and financial literacy is indirectly related to speculative stock choices via short investment horizons (H4). These findings are in line with the existing literature (Barber et al., 2014; Bui et al., 2022) that day trading has a positive association with risky decisions. In addition, the finding of the mediating role of short investment horizons (H4) is a novel contribution of the study. These findings are also consistent with the positive tradeoff between risk and return (standard and behavior finance theory). That is, financially literate investors accept risks to compensate for

higher profits. They have good strategies to gain higher profits such as making short investment horizons effectively and choosing speculative stocks.

Table 8: A Summary of the Hypotheses

No.	Hypotheses	Causal relationships	Positive (+)/ Negative (-)	Supported
1	H1	Financial literacy -> short investment horizons	+	Yes
2	H2	Financial literacy -> speculative stock choices	+	Yes
3	H3	Short investment horizons -> speculative stock choices	+	Yes
4	H4	Financial literacy -> short investment horizons -> speculative stock choices	+	Yes

Source: collected by the authors

5. CONCLUSION

This is the first study to find the vital role of financial literacy in short investment horizons and speculative stock choices. The results show that financial literacy directly affects short investment horizons and speculative stock choices. In addition, financial literacy also has an indirect impact on speculative stock investment through short investment horizons. The findings are robust using three methods of MLR, Logit and SEM and after inclusion of demographic controls.

Regarding the Sustainable Development Goals, our paper first addresses quality education (Sustainable Development Goal 4), where financial literacy is part of lifelong learning and helps investors make informed financial decisions. Next, our research also promotes gender equality (Sustainable Development Goal 5), showing that financially literate female investors can achieve independence and hold diversified securities portfolios. Finally, our paper promotes innovation (Sustainable Development Goal 9), showing that financially skilled investors can secure capital, manage risk, and sustainably scale financial investments.

The study has several implications. First, this study shows that financial literacy is a key predictor of investment horizons and stock choices, in that the more financially literate investors are, the more short investment horizons they make and the more they choose speculative stocks. Clearly, there is no doubt that financial literacy plays an important role in financial decisions and needs to be addressed at the national level. According to social learning theory (Bandura, 1986), one of the methods of acquiring knowledge is learning. Thus, securities companies need to organize many financial training sessions and seminars to help investors improve their financial knowledge. Importantly, young generations, college students, also need to be equipped with financial knowledge as they are potential investors who can contribute to economic growth. University programs should focus on applied financial decision-making skills through case analyses, workshops, and simulations so that students can apply what they learn and translate them into well-informed financial decisions. In addition, there should be a strong support from governments and financial regulators for digital financial education tools, such as short videos and scenario analysis,

embedded within trading platforms and mobile apps. These tools can help investors learn “on the spot” right before they are making important investment decisions.

Second, investors tend to choose short investment horizons and speculative stocks, leading to potential risks that investors may encounter such as cutting losses when stock prices plummet. Therefore, decision makers need to be flexible depending on the market situation in allocating between short-term and long-term investment horizons. For example, short investment horizons should be allocated lower than long-term investments when the market is trending downward. Financial advisors also need to raise investors’ awareness of the possible risks of short investment horizons and speculative stock choices. Furthermore, government and educational institutions need to develop investment literacy materials that explicitly address short-term horizon and speculative behavior.

Last but not least, male investors have a higher level of financial literacy than female investors, which is consistent with previous studies (Bottazzi & Lusardi, 2020; Phung 2023; Tran et al., 2023). This may raise concerns about the inequality gap between men and women; especially in a society where men hold positions of power in the family. Currently, finance courses are mostly taught at the university level and as a result, those who cannot go to university miss out this opportunity. Therefore, it is necessary to expand financial courses for younger generation from elementary, middle to high school.

This study also has following limitations. First, the study examines stock investment for up to one year or greater than one year. Previous studies look at stock investment over multiple time periods such as one year, 30 months, and five years (Siebenmorgen & Weber, 2004). Different investment horizons could be applied in further research. Second, gender is not significant in explaining both short investment horizons and risk-taking behavior. Hence, consequent research should re-examine this variable. Finally, our research focuses only on Vietnam (and Vietnamese investors) and therefore this research could be expanded to include more developing and developed countries and to countries covering more diverse cultures.

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