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The effects of perceived and actual financial knowledge on regular personal savings: Case of Vietnam

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Abstract. The paper examines the factors, which affect decision-making on regular personal saving behaviour in the context of an emerging market in Vietnam. Focusing on financial literacy, the paper uses a combined measure of actual financial knowledge and a self-assessment of overall financial knowledge. The sample of the study consists of 240 commercial banks customers selected in 12 branches of four banks in Ho Chi Minh City. The questionnaire covers: (1) actual financial knowledge; (2) self-rating of financial knowledge; (3) financial risk tolerance; and (4) demographic characteristics of the respondents. The results of a logistic regression analysis show that perceived and actual financial literacy have separate effects on regular personal saving. Particularly, actual financial knowledge has a statistically significant positive relationship with regular personal saving with odds ratio higher than 6.5 times. However, perceived financial knowledge and financial risk tolerance factor are not statistically significant with regular personal saving. Finally, this paper offers evidence that the interaction variable, which is used to combine education level with their major study, has a statistically significant relationship with regular personal saving.

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1. INTRODUCTION

Economic changes and the shift from defined benefit retirement plans to defined contribution plans have led to an increase in the vital role of regular personal saving in both micro and macroeconomics. Previous empirical studies emphasize the role of saving as a means which gives individuals a sense of security and helps them overcome unwelcome problems such as illness, job loss or natural disasters that affect their income (Chudzian, et al., 2015; Newman, et al., 2008). From another perspective, individual and household savings have an effect on the whole macroeconomic system of the nation (Zhuk, 2015). Savings have positive impacts on the economy because funds placed in financial assets are then channelled through financial intermediaries to fund investments by firms. According to Lusardi & Tufano, (2015), financial literacy especially actual financial knowledge plays a significant role in individual saving behaviour and portfolio choice. Therefore, it is necessary to expand the scope of research and explore how financial literacy influences financial behaviour in the context of regular savings. There are many studies related to saving behaviour in developed countries (Henager & Mauldin, 2015; Lusardi and Mitchell, 2011; van Rooij et al. 2012). However, few studies have been conducted on the issues related to financial literacy in developing countries and emerging markets. For example, in Malaysia, there is a study by Mahdzan & Tabiani, (2013) on individual saving but this study just considers the actual financial knowledge, not mentioning perceived financial knowledge. In Vietnam, there are rare studies on financial literacy and financial behavior, especially individual saving. Therefore, this study which combines actual financial knowledge, measured by correct responses to test questions, and perceived financial knowledge, measured by respondents' self-assessments provides more insights into how financial knowledge affects financial behaviour in the context of regular saving.

Furthermore, besides the purpose of exploring the relationship between actual and perceived financial knowledge and regular personal saving, this article has developed and used the interaction variable which combines the level of education and the major of study. This article demonstrates that perceived and actual financial literacy have separate effects on regular personal savings. In addition, this article also demonstrates the role of financial education by examining the interaction variable on individual saving of Vietnamese people, especially those in Ho Chi Minh City, a representative place of emerging markets in developing countries and the biggest commercial city in Vietnam, where the majority of companies and commercial banks are located.

This article is organised as follows: Section 2 presents the related literature review. Section 3 outlines the methodology and Section 4 is the empirical part which provides statistics analysis and the logistic model to examine which factors affect regular personal savings in developing countries, especially in Vietnam. The final section draws conclusions and provides recommendations.

2. LITERATURE REVIEW

2.1 Actual and perceived financial knowledge

Financial literacy has been defined and measured in several ways. However, there is a lack of consensus on financial literacy definition although the importance of financial literacy has been widely acknowledged.

Many aspects should be considered to define financial literacy. Firstly, financial literacy is financial knowledge regarding the ability to use different financial concepts and instruments (Gallery et al., 2011; Hung et al., 2009; Huston, 2010; Remund, 2010; OCDE, 2013). Other researchers defined financial literacy as the experience and confidence in financial actions of the individual (Orton, 2007; OECD, 2013), the sufficient knowledge and ability to make financial decisions (Remund, 2010; OCDE 2013), or people's attitude towards the use of financial instruments and their confidence in financial operations performed (Orton, 2007; Huston, 2010; Remund, 2010; OCDE, 2013). Accordingly, to make a sound financial decision, individuals should have the necessary financial knowledge, the ability and confidence to apply their knowledge. It means people need both actual and perceived financial knowledge.

To assess financial literacy, most scholars concentrate on a test measuring what people know about financial knowledge of concepts such as interest compounding, inflation, and the time value of money, bonds and stocks, and risk diversification (Pudlo & Gavurova, 2012). This objective approach to the assessment of financial literacy is commonly conducted. However, an alternative way to assess financial literacy is to use subjective measures such as a perceived or self-assessment of financial literacy or knowledge. Although objective measures have been chosen in economists' research, subjective measures have been used more often to study different types of economic or financial behaviours such as perceptions of life satisfaction, happiness, and well-being (Kahneman & Krueger, 2006); risk attitudes (Leonard, 2012); and credit scores (Courchane, et al., 2008). Thus, it is also important to understand perception. According to Parker et al., (2012), both actual and perceived financial knowledge influence investments, retirement planning and credit card behaviours. Moreover, Carpena et al., (2011) found that through an individual's increased awareness and initiative, perceived financial literacy may have an effect on financial decisions. Therefore, financial confidence or perceived financial knowledge plays a significant role in financial decisions and individual financial literacy assessment.

2.2 Actual and perceived financial literacy and financial behaviour

Since there has been an increasing interest in financial literacy and individual financial behaviour, most of the research in this area concentrate on actual financial literacy, and many of them have been conducted by Lusardi & Mitchell, (2011); Mahdzan & Tabiani, (2013); Lusardi & Tufano, (2015), Disney et al., (2015); Calcagno & Monticone, (2015). Research has proved that there is a close relationship between financial literacy and financial behaviour (Xiao et al., 2010). It also shows that there is a positive relationship between saving behaviour and financial literacy. For instance, Hilgert et al., (2003) believes that financial literacy has been positively correlated with positive financial behaviour such as having a savings account and having an emergency fund. However, low levels of financial literacy have influenced the ability to save for the long-term (Braunstein & Welch, 2002). In a study with Washington State residents, Moore, (2003) points out that financial literacy has been positively associated with having investments and saving for the long-term. Moreover, it is believed that financial literacy plays an important role because it has been related to saving behaviour and portfolio choice. According to Jappelli & Padula, (2015), there is a positive association between financial literacy accumulated early in life and the individual's wealth and portfolio allocations in later life. Generally, there may be an impact of financial literacy on financial decision-making (Disney et al., 2015), because it is necessary to learn about finance in order to make the right financial decisions (Calcagno & Monticone, 2015) and invest the most effectively (Capuano & Ramsay, 2011), which helps accumulate their wealth (Jappelli & Padula, 2013; van Rooij et al., 2011; Lusardi & Mitchell, 2011).

Also, there has been a relationship between perceived financial knowledge and financial behaviour (Glova & Gavurova, 2012). According to van Rooij et al. (2012), those with higher levels of confidence in

their financial knowledge are more likely to plan and save for retirement. Furthermore, Henager & Mauldin (2015) found that perceived financial knowledge is a strong indicator of saving behaviour, which supports the findings of Allgood & Walstad (2011) and Robb & Woodyard (2011). In their research, they point out that perceived financial knowledge is essential for best practices and positive financial behaviours such as paying off credit card balances, having an emergency fund, and saving for retirement. According to Clark & Strauss (2008) and van Rooij et al. (2007, 2011), individuals' attitudes and perception of financial risks are determinants of a variety of financial decisions. Benjamin et al. (2013) and Dohmen et al. (2010) also proved that knowledge and cognitive ability affect preferences such as risk aversion, an impact on financial decisions. It means less perceived financially literate individuals are less likely to take risks. Thus, it is necessary to have a certain level of financial literacy to understand the risks related to investment products. It is also a determinant of making financial decisions, particularly planning in saving and retirement. Therefore, financial risk tolerance is a decisive factor affecting how individuals exercise regular saving and retirement planning. Also, Davey & Resnik, (2008) and McCarthy (2009) suggest that financial risk tolerance incorporates different aspects of risk including investment, insurance, borrowing and saving.

3. METHODOLOGY

The study is based on primary data collected in Ho Chi Minh City in Vietnam in January 2016. Survey questions (see appendix 1) were distributed to the total of randomly selected 240 respondents in 12 branches of four commercial banks in Ho Chi Minh City. Customers of commercial banks are selected as they are places where there are many kinds of respondents, and it is easy to access them in one place. After filtering and disqualifying, 29 invalid questionnaires were rejected in the tabulation process because of the same answer "Do not know" to all the questions or missing information. The questionnaire consists of 27 multiple-choice questions in four main sections; (1) Actual financial knowledge divided into two levels: basic financial knowledge and general investment knowledge; (2) self-rating of respondents' financial knowledge; (3) financial risk tolerance; and (4) demographic characteristics.

Measure the variables

The dependent variable is coded as a binary variable to represent whether or not an individual was saving regularly (1 = Yes, 0 = No). The independent variables which are coded to represent actual financial knowledge are constructed based on the study conducted by van Rooij et al. (2011) and Bateman et al. (2012), a self-reported perception financial knowledge is constructed based on the study conducted by Australia & Financial Literacy Foundation, (2007), Financial risk tolerance measured in section three is based on questions devised by van Rooij et al. (2007) and Clark & Strauss (2008), and demographic characteristics. The actual financial knowledge variable is each coded as a binary variable (1 = Correct, 0 = Incorrect). An index is created for the overall measurement of the objective level of financial knowledge; it is based on the number of correct answers to the questions. Responses could range from 0 to 4 for the basic and advanced level of actual financial literacy. The perception of self-assessment financial knowledge variable is represented by 5-point Likert scale from: "1 = I do not know enough to 5 = I know as much as I need." A high score indicates a higher level of perception of financial knowledge. There are six questions to assess the confidence of respondents' financial knowledge; they range from 6 to 30 and have a Cronbach's Alpha of 0.783. It is also similar to financial risk tolerance in which there are four questions to consider the financial risk tolerance of respondents; they are divided into three groups such as risk averse, medium risk taking and high risk taking, and they have a Cronbach's Alpha of 0.664.

Demographic characteristics are control variables of this study such as gender, age, and level of education, major of study, job status, and marital status, dependent's children and income level of respondents. All of them are dummy variables, and they are also considered as independent variables of this study.

Hypothesis

The following relationships between the dependent and independent variables are predicted:

H1: *Actual and self-assessment financial knowledge have a significant impact on personal saving regularly (+/-).*

H2: *There is a relationship between personal saving regularly and financial risk tolerance of respondents (+/-).*

H3: *Individuals with high education level and major of study related to business are more positively and significantly related to regular personal saving than people with high education level but non-business major of study (+).*

Logistic Regression

Logistic regression is used to examine the association of several factors with personal saving regularly. The dependent variable is personal saving regularly, and the key independent variables are the actual financial knowledge index, perceived financial knowledge, financial risk tolerance, and an interaction variable such as education and major of study. Demographic factors are used as control variables. A variance inflation factor (VIF) test is run to check multicollinearity in the independent variables.

4. RESULTS AND DISCUSSION

Descriptive statistics showed that 48.3% of them are male and 51.7% of female. Most of the respondents are between the ages of 18 and 45. Regarding education, around 22% do not attend a university after finishing high school, 72% have a university degree, and around 5% complete a postgraduate degree. Regarding respondents' income, the majority of them have an average income level (below or equal to VND9 million).

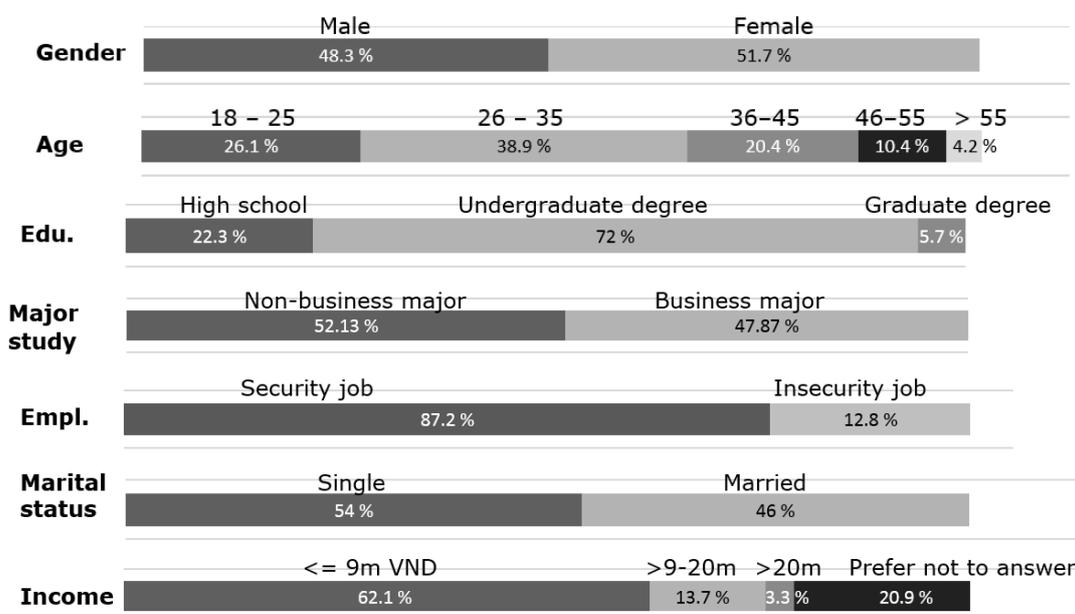


Figure 1. General characteristics of the samples

Source: Researcher developed based on sample survey

In Table 1, actual financial knowledge is divided into two levels. The first level assesses respondents' basic financial knowledge. The first four questions (Q1-Q4) are associated with very basic financial concepts which are a requirement day-to-day financial transaction. The result shows that 56.9%, 52.6%, 55.9% and 51.2% of respondents gave a correct answer to the questions related to compound interest, inflation, time value of money and money illusion respectively, whereas just around under 50% did not know the answer or answered incorrectly to inflation and illusion money questions. The second level explores respondents' knowledge of general investment. The questions are designed to test knowledge of risky assets, such as stocks and bonds, as well as concepts such as long period returns, volatility, and risk diversification. The result of these questions (Q5-Q8) shows that the lowest percentage of participants (30.3%) gave correct answers to the question related to an asset which typically provides the highest return. The second lowest figure of correct answers (50.7%) is associated with the knowledge regarding risk diversification. This suggests that about a half of total respondents have a good understanding of diversification theory in the investment portfolio. Over 60% of participants have an understanding of risk asset. This means respondents believe that shares are usually riskier than bonds and which asset displays the volatility.

Table 1

Frequencies of responses for actual financial knowledge questions (N=211): Percentage of correct, incorrect responses

	N = 211	
	Correct (%)	Incorrect & Don't know (%)
Basic financial knowledge		
Q1: Compound interest	56.9	43.1
Q2: Inflation	52.6	47.4
Q3: Time value of money	55.9	44.1
Q4: Money illusion	51.2	48.8
General investment knowledge		
Q5: Risk asset	63.5	36.5
Q6: Long-term period return	30.3	69.7
Q7: Volatility	60.7	39.3
Q8: Risk diversification	50.7	49.3

Source: Researcher developed based on sample survey

The overall basic financial knowledge and general financial knowledge score are obtained from the summation of scores of each. Table 2 below summarises the average and standard deviation of respondents' answers. The average of basic financial and general investment knowledge is about medium, about 2 out of 4, which suggests that the overall financial knowledge can be considered moderate.

Table 2

The mean and standard deviation of respondents' correct answers

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Basic financial knowledge	211	4	0	4	2.17	1.142
General investment knowledge	211	4	0	4	2.05	1.262

Source: Researcher developed based on sample survey

The second part assesses the respondents' perceived financial knowledge. The results in Table 3 indicate that they self-assess their financial knowledge at a moderate level. Just under 5 percent award themselves the top knowledge scores (high-rating). About 47.8 percent give themselves average-rating, similar to the percentage of the respondents with low-rating financial knowledge. Overall, over 50 percent of respondents believe they are above-median with financial knowledge, a figure that equals what is revealed from our review of actual knowledge.

Table 3

Perceived financial knowledge

Self-assessment financial knowledge	Freq.	Percentage
Low-rating	100	47.39%
Average-rating	101	47.87%
High-rating	10	4.74%

Source: Researcher developed based on sample survey

Regression analysis

Logistic regression analysis is performed to see the relationship between actual and perceived financial knowledge of regular personal saving. Before running the model, a variance inflation factor (VIF) test is used to check for multicollinearity in the independent variables. There is no collinearity problem as VIF in each case is not more than 7. Besides, the log likelihood of this model shows -75.537.

Based on logistic regression analyses, results indicate that the actual financial knowledge index namely basic financial knowledge and general investment knowledge has a statistically significant positive relationship with regular personal saving. Individuals with a high level of actual financial knowledge are more likely to have regular saving with odds ratio higher than 6.5 times. This result is also consistent with previous research. In a prior research with Washington State residents, Moore, (2003) indicated that financial literacy has a positive relationship with long-term saving and investment. After that Xiao et al., (2010) also proved financial literacy has a strong effect on financial Behaviour. Additionally, in developing countries, Mahdzan, N. S., & Tabiani, S. (2013) addressed the relationship between financial literacy and saving by the probit regression, and they also found the same result that financial literacy has significant positive association with saving. However, self-assessed financial knowledge is not reliably estimated with regular personal saving. **Hence, the result partly supports the first hypothesis.**

According to the analysis of this research, **results do not support the second hypothesis of this study** as there is not a statistically significant relationship between financial risk tolerance and regular personal saving. Although financial risk tolerance of respondents is not reliably estimated with regular personal saving, the coefficients and odds ratio show that individuals with more risk tolerance taking are less likely to have regular saving with odds ratio lower than around two times compared with those belonging to group risk averse. However, the result of coefficient and odds ratio in this research are consistent with prior research. For example, Benjamin *et al.* (2013) and Dohmen et al. (2010) proved that lower cognitive financial knowledge abilities are connected with lower levels of financial risk tolerance. This means individuals with lower levels of financial literacy are more likely to be risk averse. It is necessary to possess a certain level of financial literacy to understand the risks associated with investment products, so this knowledge is essential for investors to make financial decisions, especially important ones such as long-term investment. Therefore, people with high education level with a business major have the actual financial knowledge and also have cognitive financial risk tolerance. Hence, the interaction education and major

studied of respondents should be considered. That is the reason why this research practices the interaction variable which is used to combine education with their major study.

Table 4

Results of the Logistic Regression—Does the personal saving Regularly (1 = yes, 0 = no) N = 211

Variable	Coefficient	SE	Odds ratio	Sig.
Actual Financial knowledge				
- Basic financial knowledge	1.875	.322	6.521	0.000
- General investment knowledge	.704	.200	2.022	0.000
Self-assessment financial knowledge (ref. low-rating)				
- Average-rating	.371	.445	3.473	0.405
- High-rating	1.807	2.002	308.8	0.367
Financial risk tolerance (ref. risk averse)				
- Medium risk taking	-.554	.639	.574	0.386
- High-risk taking	-.520	.572	.594	0.363
Level of education (ref. <=high school)				
- Diploma/Undergraduate	-1.061	.800	.345	0.185
- Postgraduate	-.851	1.226	.426	0.488
Major study (ref. non-business major)				
- Major study related business	-3.193	1.054	.041	0.002
Education*major	3.619	1.261	37.330	0.004
Gender (ref. female)				
- Male	.094	.476	1.098	0.843
Age (ref. 18-25)				
- 26-35	1.158	.661	3.184	0.080
- 36-45	.832	.888	2.299	0.348
- 46-55	1.880	.930	6.556	0.043
- >55	.202	1.634	1.224	0.901
Job status (ref. insecure job)				
- Job security	.283	.611	1.327	0.643
Marital status (ref. single)				
- Married	-.310	.607	.732	0.609
Dependent (ref. no children)				
- with children	.614	.647	1.849	0.342
Level of Income (ref. <=9 million VND)				
- >9-20 million VND	-.227	.684	.796	0.740
- >20 million VND	-.702	1.688	.495	0.677
- Not prefer to answer	-.627	.590	.510	0.255
X²	70.48			
Log likelihood	-75.537			
Pseudo R2	0.4545			
P-Value Hosmer-Lemesho	0.4862			

Source: Researcher developed based on sample survey

An interesting finding in this result is that while education level of respondents is not reliably estimated with their regular saving, people with major study related to business are less likely to have regular saving than people with non-business major. It can be explained that those with major business could understand and be aware of the economic and financial concepts and they could have a higher level of financial literacy. Therefore, they have more options to invest their money than to put it in saving accounts such as participation in the stock market or other investment in their portfolio investment, which is also supported

by previous studies (van Rooij et al. 2011; Jappelli & Padula, 2015). When the interaction variable is used to combine education with their major study, this factor has a statistically significant relationship with regular personal saving. Specifically, people with high level of education with a business major are more likely to have regular saving behaviour with odds ratio 37 times higher compared with those with a high level of education not related to business major. This means that those with a high level of education and with business major obviously have a higher level of financial literacy. However, in emerging market like Vietnam, these people less participate in other instruments in financial market than regularly save their money in saving accounts because they could think that Vietnam's financial market has infant stock market, constraint policies and asymmetric information problems. That is the reason why they prefer to regularly save their money in saving accounts to other investment options. ***This result supports the third hypothesis.*** This finding suggests that the interaction variable could be explored for examining financial behaviour in further research because it may provide more insights into individuals' financial behaviour.

Age has been categorised in different groups. Age groups of 26 to 35 and 46 to 55 have a statistically significant positive association with regular saving, and these groups are more likely to have regular saving with odds ratio higher than 3.1 and 6.5 times respectively compared with 18 to 25 age group. Another interesting finding of this study is that when people approach their retirement age, they show more interest to make more savings. Accordingly, this study could review the practices of individuals in the Asian culture. When individuals approach age level 46 – 55, they may have completed most of their family commitment as parents.

Goodness-of-fit for this model was also tested. The result indicates that the model fits based on the criterion provided by Hosmer – Lemesho with the resulting P-value is 0.4862.

Finally, this study offers further evidence that perceived and actual financial literacy have separate effects on regular personal saving. The result of this research provides more evidence to support a positive relationship between saving behaviour and actual financial knowledge. Moreover, the result shows that people with the non-business major study are more likely to exercise regular saving than those with business major. Furthermore, authors of this study first estimated a set of a regression model with the interaction variable which is used to combine education with their major study. The result shows those people with high level of education, and their business major could have a higher level of financial literacy, but they are more likely do saving regularly than those with a high level of education not related to business major.

5. CONCLUSION

This research is conducted to examine the factors which affect regular personal saving focusing on financial literacy in developing countries, especially in Vietnam. Generally, in this study financial literacy is considered as an important determinant of regular personal saving. Financial literacy is a combination of actual financial knowledge, a basic component of financial knowledge, and general investment knowledge with self-assessed financial knowledge which has been found to be positive significant related between actual financial knowledge and saving behaviour. Also, people with high level of education and study major related to business also have a significant positive relationship with the probability of regular personal saving. It supports the findings from Mahdzan & Tabiani (2013) and Henager & Mauldin (2015) in which actual financial knowledge is thought to be essential for best practices and positive financial behaviours such as having an emergency fund, saving regularly and saving for retirement. Moreover, also we can agree with Lusardi & Mitchell (2014), that efforts to better measure financial education are likely to pay off.

The fact that actual financial knowledge is significantly associated with regular saving decision emphasises the demand for financial knowledge everyone should have. Moreover, according to

demographic factors, the result also shows that older people of age group 46 to 55 are more likely to regular saving with odds ratio higher 3.1 than other age groups. Although this is a preliminary research, the findings suggest that government and education system need to make an effort to promote financial literacy by providing basic financial literacy, and general investment knowledge educational programs in order to increase saving behaviour regularly amongst households or individuals at an earlier stage in the life cycle, because it is necessary and effective to save money in their labouring stage.

However, the small number of respondents is the limitation of this study, so the results are not generalised to the population. Therefore, a more comprehensive research into a more representative sample of the population is suggested to provide valid generalisations. Moreover, as this is a relatively new topic in developing countries, especially in Vietnam, further research should be carried out in this area. We also plan to develop this research area in several ways. First, we will examine the impact of financial literacy on investors' choice of the retirement fund. Moreover, we will assess the relationship between financial literacy and household income diversification.

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APPENDIX

Appendix 1A: Actual Financial Knowledge

Basic financial Knowledge

- Q1. Interest compounding: Suppose you had VND100 million in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total? (i) More than VND200 million; (ii) exactly VND200 million; (iii) less than VND200 million; (iv) do not know.
- Q2. Inflation: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? (i) More than today; (ii) exactly the same; (iii) less than today; (iv) do not know.
- Q3. Time value of money: Assume a friend inherits VND100 million today and his sibling inherits VND100 million 3 years from now. Who is richer because of the inheritance? (i) My friend; (ii) his sibling; (iii) they are equally rich; (iv) do not know.
- Q4. Money illusion: Suppose that in the year 2017, your income has doubled and prices of all goods have doubled too. In 2017, how much will you be able to buy with your income? (i) More than today; (ii) the same; (iii) less than today; (iv) do not know.

General Investment knowledge

- Q5. Risk asset: Stocks are normally riskier than bonds. True or false? (i) True; (ii) false; (iii) do not know.
- Q6. Long-term period return: Considering a long-time period (for example 10 or 20 years), which asset normally gives the highest return? (i) Savings accounts; (ii) bonds; (iii) stocks; (iv) do not know.
- Q7. Volatility: Normally, which asset displays the highest fluctuations over time? (i) Savings accounts; (ii) bonds; (iii) stocks; (iv) do not know.
- Q8. Diversification: When an investor spreads his money among different assets, does the risk of losing money: (i) Increase; (ii) decrease; (iii) stay the same; (iv) do not know.

Appendix 1B: Self-assessment Financial Knowledge

On a scale of 1 to 5, where 1 means very low (I do not know enough) and 5 means very high (I know as much as I need), how would you rate your financial knowledge and understanding to:

- Q9. Budget day-to-day finances: [1] Very low; [2] Low; [3] Average; [4] High; [5] Very high.
- Q10. Save money: [1] Very low; [2] Low; [3] Average; [4] High; [5] Very high.
- Q11. Manage debt: [1] Very low; [2] Low; [3] Average; [4] High; [5] Very high.
- Q12. Invest money: [1] Very low; [2] Low; [3] Average; [4] High; [5] Very high.
- Q13. Plan for the financial future: [1] Very low; [2] Low; [3] Average; [4] High; [5] Very high.
- Q14. Save enough money for retirement: [1] Very low; [2] Low; [3] Average; [4] High; [5] Very high.

Appendix 1C: Financial Risk Tolerance

- Q15. When you are thinking about long-term savings and retirement, which of the following best summaries your attitude:
- I aim to get the best possible growth in the value of my savings, even if that means taking some risks which could cause my savings to fall in value
- I prefer to have safe and secure savings and investments, even if that means they do not grow in value as much as they could
- Q16. You are given the opportunity to take a new, equally good job, with a 50% chance it will double your income and a 50% chance that it will cut your income by a third. Would you take the new job? Yes
 No Not sure
- Q17. Suppose the chances were 50% that it would double your income, and 50% that it would cut your income in half. Would you take the new job? Yes No Not sure
- Q18. Suppose the chances were 50% that it would double your income, and 50% that it would cut your income by 20%. Would you take the new job? Yes No Not sure

Individual Saving Regularly

Q19. Do you save your money regularly? Yes No

Appendix 1D: Social - Demographic Characteristics

Q20. What is your gender? Male Female

Q21. How old are you?

18 → 25 → 35 → 45 → 55 →

Q22. What is your highest education qualification?

Below Year 12 High school Undergraduate Post graduate

Q23. What is your major when you study in university?

Major in Business Major non-Business

Q24. Which of the following best describes your current work status?

working full-time working part-time working on a casual basis
 temporarily not working retired other, please specify:

Q25. Which of the following describes your marital status?

Single Married

Q26. Which of the following describes your household situation?

Single - Live alone Single - Live in shared household
 Single parent Couple - Children at home
 Couple - No children at home

Q27. What is your approximate total annual household income from all sources before tax?

→ VND9 million → VND15 million → VND20 million → VND30 million →