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ECONOMETRIC ANALYSIS OF THE IMPACT OF FINANCIAL LITERACY ON FINANCIAL DECISION MAKING

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ABSTRACT

Successful financial management is important at every stage of the life process, but as people get older, financial decisions can become more difficult. Older people have to manage many financial resources and make financial decisions throughout their lives. In addition, financial liberalization has led to an proliferation of new financial products and services, many of which are unfamiliar to retirees. This increasing complexity can also be exacerbated by subsequent declines in financial literacy. However, older people may have years of experience in making financial decisions and following the decisions of others. This paper studies the determinants of financial literacy level in Uzbekistan according to the survey among people aged from 40-70

Keywords: finance, financial literacy, financial decisions, decision making, Uzbekistan

INTRODUCTION

Financial literacy research examines how financial literacy shapes financial decisions. Other studies have used direct measurements of financial literacy, often based on the Big Three financial literacy questions developed by Lusardi and Mitchell. Consequently, this allows researchers to more accurately identify the link between financial literacy and different financial behaviors. For example, Bucher-Koenen and Siegelmeyer showed that Germans with low levels of financial literacy were less likely to invest in the stock market and were more prone to financial crises by selling assets that had lost their value. Using a sample of about 2,000 Dutch households, Van Rooy's study found that financial illiteracy has reduced households 'willingness to buy shares. Guiso and Jappelli used Italian data on investor portfolio selection and answers to two questions about inflation and interest rates. A survey was conducted in Uzbekistan to determine financial literacy

in financial decision-making. In this study, a compiled database using a marketing agency was used. The respondents in this survey are men between the ages of 40 and 70 and their spouses. Since August 2020, nearly 15,000 individuals have participated in monthly surveys. Interviews were conducted over the Internet, and respondents who needed assistance or were not connected to the Internet responded by telephone. Respondents received modest compensation for their participation in the survey, and various explanatory work was carried out to engage the survey team.

The diversity of the frequency of responses to the survey ensures the reliability of the survey results. Monthly observations on loan repayment behavior allow us to estimate the number of months in which loan balances have not been paid, resulting in interest on penalties. Our full analytical sample consisted of respondents aged 40–70 years on the wave who answered all three questions of financial literacy and answered the annual asset and income modules (N = 2573). Our analysis is conducted at the respondent level, assuming that resources are managed together in the family. Financial literacy is assessed using the Big Three question, which is standard at the individual level.

METHODOLOGY

Assessment of “financial behavior”. This category is assessed by the level of timely repayment of loans, participation in the stock market, the degree of diversification of assets.

Timely Repayment of Loans: Each month, respondents are asked if they have loans and if so, whether all loans on the loan have been repaid in that month, and how much to pay if the respondent has to pay interest for the following month. Using this information, we formed an indicator denoted by the number 1, otherwise 0, if the respondent paid the loan balance on time each month for the months of participation 2020 and 2021. To analyze the timely repayment of the loan, we limited the sample to repeaters who had at least one credit holder and participated in the survey for at least nine months in a given calendar year (n = 1875 or 73% of the full sample). The final criterion of selection ensures that we

receive sufficient information about our loan repayment habits each year, while at the same time reducing the number of observations from the analysis.

Among those who reported transferring balances from one month to the next, we calculated the number of overdue payments in the calculated period and added the accrued interest payments. In some cases, households may face liquidity constraints due to unexpected expenses, so a credit balance delay does not mean bad or negative financial behavior. The marketing agency collects information on household balances in fund accounts on a monthly basis, so we cannot determine liquidity limits on a monthly basis. Accordingly, we used the nearest available data before and after the loan repayment, which is used to estimate each transfer transaction.

Level of participation in the stock market:

Participation in the stock market allows households to be rewarded for their capital risk. For this reason, many financial advisors are now advising households to keep their funds, even in old age. In this indicator, too, those who participate in the stock market are marked with 1, and those who do not participate with 0.

Level of asset diversification:

The third financial behavior is related to the diversification of age-related investments. Decisions about investment risk depend on people's risk, knowledge of financial instruments, liquidity, and a number of other factors. The "100-year-old" rule was used to determine whether people's portfolios were rationally organized (Arshanapalli and Nelson). In this case, the optimal investment portfolio for a person, ie the ratio of debt and private capital is determined according to this rule, ie if a person is 40 years old, 100-40 = 60, the share of private capital in the portfolio should be 60%. The remaining 40% should be formed through low-risk bonds or other securities representing debt obligations.

Financial Literacy Assessment

Financial literacy is measured using the Big Three questions that examine the basis of economic savings and investment decisions (Lusardi and Mitchell). These concepts include the ability to calculate and perform calculations related to interest rates; the concept of inflation; and the concept of risk diversification.

Questions: 1. Let’s say you had $ 100 in a savings account and the interest rate was 2% per annum. After 5 years, if you leave your money to increase, how much money do you think will be in your account:

2. Imagine that the interest rate on your savings account was 1% per annum and the inflation rate was 2% per annum. How many things can you buy in 1 year?

3. Do you think this idea is wrong or right "Buying shares of one company brings a safer return than an investment fund"

We used the answers to these three questions to calculate the FinLit (Financial literacy) index (range 0-3), which is equal to the total number of questions each person answered correctly. If the respondent marked “I don’t know,” it was also accepted as an incorrect answer. Respondents who did not answer all three questions of financial literacy (i.e., left one or more questions blank) were excluded from the analysis.

ANALYSIS AND RESULTS

Distributions by question show that 81% of respondents answered the question of interest rate correctly, 72% answered the question of inflation correctly, and 46% answered the question of risk diversification correctly. The FinLit average in our sample is 2.02 (SD = 0.97). According to a U.S. study on the same age group, 87 percent of 40-70-year-old American respondents answered the interest rate question correctly, 86 percent answered the inflation question correctly, 43 percent answered the risk diversification question correctly, and the average FinLit score was 2, It was 16. Thus, we can see that the average level of FinLit is slightly lower than the average rate of Uzbeks compared to adults in the United States.

Other indicators:

Multivariate regression includes the following additional demographic controls: gender, marital status, education (secondary, higher), race / ethnicity, and age of the respondents. It also included the right to own a home, whether or not respondents work for wages. In addition, the experience of respondents in the management of financial resources, their

role in financial decision-making was taken into account. At the same time, we also regressed the logarithm of total household income and net income.

Variables	Mean (Standard deviation)
Woman	52%
Married	81%
Financial Literacy Assessment (FinLit)	2.02
40–47	27%
48–55	31%
56–63	23%
64–70	20%
Education	
Below secondary education	21%
Secondary education	41%
Post-secondary education	38%
Family finance management	84%
The right to own a home	88%
Risk acceptance level (0–1)	0.15
Those who work for a salary	54%
Average health	34%
Annual income (thousand soums)	60,554
	(145,422)
Media of annual income (thousand soums)	27,700
Total wealth (million soums)	1161
	(1725)
Media of total wealth (million soums)	662
Financial resources (million soums)	196
	(421)
Media of financial resources (million soums)	50
N	6573

Figure 1 Descriptive statistics

Source: Author's compilation

The data in the table above show descriptive statistics for respondents (N = 2573). The average age of respondents was 54.8; more than half (52%) were women; and one-third

have post-secondary education (10+ years of schooling). The average FinLit index is 0.97 with a standard deviation of 0.02, which means that Uzbeks found two of the three correct answers on average. Only 46% answered the last question on risk diversification correctly, which shows that 50-60 year olds do not have a good knowledge of stocks and investment funds. The majority of respondents are married (81%) and have the right to own their homes (88%). Respondents 'self-assessed risk levels on financial decisions were low: only 15% scored above 5 on a scale of 0-10, where 10 indicates the highest risk tolerance. More than half of the selection, they are currently employed and paid.

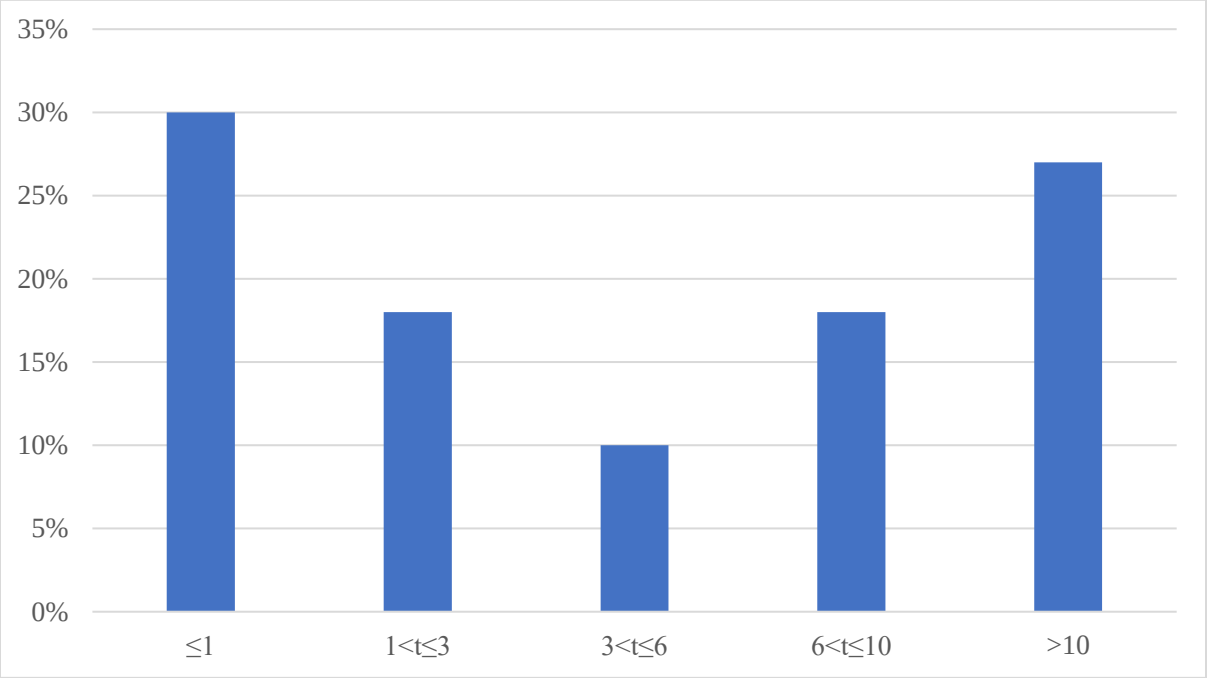


Figure 2 Number of annual overdue loan payments

Analyzing the picture data above, it is costly not to repay the loan balance on time, and some respondents pay such payments more than once a year.

	Timely payment of credits		Stock market participation		100-age rule	
Determinants	Probit		Probit		Probit	
FinLit score	**0.015****		**0.083****		**0.017****	

Females	**(0.005)**		**(0.009)**		**(0.006)**	
	0.015		0.028*		0.015	
Males	(0.006) *		(0.012)		(0.008)	
	0.007		0.120**		0.016	
Age 40-47	(0.010)		(0.021)		(0.013)	
	0.021*		0.012		0.040**	
48-55						
56-63	(0.009)		(0.019)		(0.011)	
	0.037**		0.050*		0.075**	
64–70	(0.009)		(0.022)		(0.011)	
	0.030**		0.050*		0.125**	
Education, pre middle school	(0.010)		(0.025)		(0.010)	
	0.025		0.215**		0.087**	
Middle						
Post middle	(0.015)		(0.022)		(0.017)	
	0.016		0.301**		0.097**	
Household Finance Management	(0.015)		(0.025)		(0.019)	
	0.019		0.003		0.007	
Owning household	(0.012)		(0.020)		(0.013)	
	0.009		0.195**		0.054**	
Risk acceptance	(0.013)		(0.032)		(0.015)	
	0.046**		0.113**		0.014	
Ln total wealth	(0.012)		(0.021)		(0.013)	
	0.029**		0.182**		0.017**	
Ln total income	(0.005)		(0.013)		(0.005)	
	0.002		0.031**		0.014**	
Work for pay	(0.003)		(0.005)		(0.004)	
	0.021*		0.051**		0.028**	
Average health	(0.008)		(0.016)		(0.010)	
	0.007		0.014		0.000	
N	(0.009)		(0.016)		(0.010)	
	4321		*6177*		*6318*	
Pseudo R-sq	*0.10*		*0.25*		*0.09*	
BIC	*2407.8*		*6520.5*		*5578.3*	
Mean of dep. var.	*0.92*		*0.42*		*0.18*	
Std.dev of dep. var.	*0.27*		*0.49*		*0.38*	

Figure 3 Regression results

Source: Author's compilation

Analyzing the regression results, the study identified three factors as key variables, namely the timely repayment of loans, participation in the stock market, asset diversification, and their impacts.

CONCLUSION

Respondents with high financial literacy rates were found to be able to repay loans on time, participate in the stock market and diversify their assets properly, which means that increasing financial literacy will have a positive impact on key variables. The results in the last column show that respondents with high financial status followed the age-appropriate investment rules. On average, a one-point increase in the FinLit score is found to be related to a 1.7 percent ($p < 0.01$) high probability of following the age-related rule, while keeping other factors constant. The high level of risk acceptance of the participants has a positive effect on the timely repayment of loans and activity in the stock market. A higher level of the natural logarithm of participants' income leads to an increase in their participation in the stock market, asset diversification by age. The fact that people have the right to own their own homes also has a positive effect on their activity in the stock market.

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