Financial Literacy and its level in Hungary

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ABSTRACT

This paper provides information on the pattern of financial literacy in Hungary. Although not a representative one, the collected data of 223 observations shows interesting relationships of variables that can explain the level of financial literacy. The method of research was by using ordinary least squares regressions, as well as descriptive statistics. The main finding of the paper is the being highly educated can serve as explanation to some degree for the level of financial literacy; also, that having a higher amount of savings (or having savings at all) could also be one of the variables that is in a strong relationship with financial literacy. Moreover, it is also confirmed that the younger a person is, the more likely he or she would be more tolerant towards traditional free market mechanism and rely less on the help of the state in financial matters.

ACKNOWLEDGEMENTS

I most sincerely would like to thank Professor Ádám Gábor Zawadowski for helping me doing this research. Also, the teachers and staff of the Economic Department at Central European University can be sure that I hold them in the highest regard possible for creating such an inspiring atmosphere for us to study in. Since there is only a small probability that any of my closer friends and family will read this work, I choose to acknowledge them here but promise to tell them my thanks in person.

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INTRODUCTION

"Financial markets are becoming more accessible to the small investors. Financial services have also become widespread. At the same time, in the retirement landscape, the trend toward disintermediation is increasingly requiring people to decide how much to save and where to invest. Financially complex products spreading to the retail market such as student loans, mortgages, credit cards, pension accounts, annuities, are difficult to understand for everyday customers." (Lusardi – Mitchell, 2014)

Financial literacy is an integrated, general approach to how well people understand the financial mechanisms which undoubtedly play a great part in their everyday lives, mostly in the Western world. The subject itself has been enjoying **a rapidly growing body of research**, especially since the last great global financial crisis and recession. In a parallel way, it also has been becoming **an important, although vague target for policy makers**. The challenge in financial literacy is not only the way we approach **measuring** the current state of it throughout different nations, but understanding the **underlying causes** behind it which could help policy-makers form well-targeted policy measures to increase the levels of financial literacy.

The **aim of this paper** is to extend the existing research on financial literacy, and the research of it on Hungary with using the measurement technique known from the research of Lusardi – Mitchell and extend it with some possible questions on its causes. This way I aim to provide credible information on my country's financial literacy level which can be used for further comparisons.

The **body of the paper** contains Section I which gives a general introduction to the academic research about financial literacy. Section II provides much of the essence of the paper,

with showing the small sample research conducted online about the pattern of Hungarian financial literacy levels. In Section III, I give a summary, limitation, possible directions for further research and the conclusions.

THE THEORY OF FINANCIAL LITERACY

Definition

There are several definitions for financial literacy as this subject is a very general one indeed. Gale and Ruth writes in their article (Gale - Ruth, 2010, p. 3) that financial literacy can be defined "as the ability to make informed judgments and effective decisions regarding the use and management of money and wealth", while in the Lusardi and Mitchell article (Lusardi - Mitchell, 2014, p. 6), financial literacy is „people's ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions"

Quantitative research

Measuring financial literacy is probably the biggest challenge about this subject. At Lusardi and Mitchell's paper (Lusardi and Mitchell, 2014), several fundamental concepts of savings and investment decisions are described and were modelled in the life cycle setting. Three such concepts are (i) numeracy and capacity to do calculations related to interest rates (such as compound interest); (ii) understanding of inflation; and (iii) understanding of risk diversification. The translation of these concepts into generally understandable questions was done by Lusardi and Mitchell through a standard set of questions and implemented them in numerous surveys.

After years of investigating the subject of financial literacy and the theory of measuring it, Lusardi and Mitchell came up with four principles in measuring them. These principles are worth considering as they can serve as a guiding force for anyone with ambitions of measuring the subject

in a different context. The principles are simplicity, relevance, brevity, and questions should have a capacity to differentiate financial knowledge to allow for comparisons between people.

About the direction of measuring financial literacy, the academic field provides several answers. Typically, financial literacy and/or financial knowledge indicators are used as inputs to model the need for financial education and explain variation in financial outcomes such as savings, investing and debt behaviour. Far fewer studies specifically emphasize measurement of financial literacy as an objective (Huston, 2010). The purpose of this article is to examine previous literature to identify obstacles, and propose an approach, to **develop a more standardized measure of financial literacy**. Seventy-one individual studies drawn from fifty-two different data sets were identified for analysis.

Policy measures

In the United States, a Financial Literacy and Education Commission (FLEC) was established in 2003 and was tasked to develop a national financial education web site (MyMoney.gov) and a national strategy on financial education. The Commission is governed by the heads of different federal agencies and chaired by the Secretary of the Treasury. This Commission gives the education of young citizens at the furthermost importance and tries to help prepare young people for their financial lives. In Hungary, the policy desire for a generally higher level of financial literacy has been identified when the National Economic Ministry stated in 16 March 2016 that “Further development of financial knowledge is a priority goal” (National Economy of Hungary (2016), it is not altogether clear how they wish to do it other than sending coaches to schools to educate young people about finances.

SMALL SAMPLE ON FINANCIAL LITERACY IN HUNGARY

The pattern of financial literacy in Hungary was in focus in this part of the paper and it was researched through surveying people online. This section provides much of the substance of the paper, it presents the method of the survey, the details of the data and the results.

Conducting an online survey was the **method** of gathering data. The survey contained 16 questions in four main parts. Three questions were copied out of the Lusardi – Mitchell research (Lusardi – Mitchell, 2014, p. 10) since they already had been tested and found significantly useful. These questions were in section three and were supposed to be showing the patterns of financial literacy among the participants. The other sections were supposed to show the reasons behind a particular financial literacy pattern. The first part acquired information about the person's age group, gender, highest educational qualification and their parents' highest educational qualification as well, and the person's professional field. The second section was requiring about cognitive abilities with an easy, a medium and a more difficult logical puzzle. The third section contained the financial literacy question and the fourth section was trying to proxy how much the participants valued capitalism and which category of savings they belong to. This last section was chosen to be part of the survey because it was my expectation that the Hungarian history with its circa 50 years of Communism/Socialism and 25 years of free market could reflect itself in the way people valued free market mechanism and thus could affect their financial literacy. To be precise, I expected a negative attitude towards profit-making activity and entrepreneurialism, and just the opposite towards state intervention in the market. After gathering reliable number of data, I worked on coding the values and then analysed them.

The **channels** through which these individuals were reached can account for the distortion in the data. I reached out for my own network via email and Facebook, but also tried to reach for networks on Facebook which are not closely related to my social circles. These networks included the "Pesten Hallottam" ("I heard it in Pest") group with 229,499 members who are mostly in their teenage years or are twenty-somethings; another group with rather large membership was the "Albérlet keresők" ("People looking for rent") with 48,888 members, and many other smaller ones in the specific locations of Kecskemét and Miskolc. The reason I choose these two location outside Budapest was to try to reach bigger cities that have different levels of economic status, Kecskemét being the richer one, Miskolc the less rich one. Out of the 223 individuals I could reach around a 100 through these Facebook groups.

The econometric model

Regressing the different explanatory variables on the financial literacy scores can show if the relationship between any of them is statistically reliable or not. The econometrical method of calculating the correlations was Ordinary Least Squares. The original model of the regressions, together with all the variables collected was the following:

$$
\begin{aligned}
&Financial\ Literacy\ Scores \\
&= \alpha + \beta 1\ x\ Gender + \beta 2\ x\ Age + \beta 3\ x\ Education \\
&+ \beta 4\ x\ Parents'\ Education + \beta 5\ x\ Profession + \beta 6\ x\ Cognitive\ Ability \\
&+ \beta 7\ x\ Savings + \beta 8\ x\ Profit + \beta 9\ x\ State + \beta 10\ x\ Entrepreneurialism \\
&+ \beta 10\ x\ Highly\ Educated + \beta 11\ x\ Parents\ Highly\ Educated \\
&+ \beta 12\ x\ Profession\ with\ a\ diploma + e
\end{aligned}
$$

The variables are explained in the coming paragraph. **Gender** is a dummy variable which equals one if the participant is a woman. **Age** shows which age group the participant belongs to. Age is equal to one if the participant is below 20; two if the participants is between 20-29 years; three if between 30-39; four if between 40-49; five if between 50-59 and six if above 60 years-of-age. **Education** means the person's highest achieved qualification. Education variable equals one if he/she has an elementary school diploma; two if the person has completed a vocational high school; three if the person has a high school diploma; four if the person has college degree; five if the participant completed a university degree and six if he/she completed a doctoral school. **Parents' education** means the person's parents' highest completed educational qualification. It is one if the parents' highest completed diploma comes from an elementary school, two if completed secondary school and three if completed tertiary school, while four if completed a doctoral school.

The **Profession** variable shows the person's professional field, which is zero for Else, one if it's Economic, two if Law, three if Healthcare, four meaning Engineering, five is Education, six is Governance, seven is Own enterprise, eight is Production, nine is Blue Collar, ten is White Collar (if cannot be categorized as one-six).

The variable **Cognitive ability** was introduced to proxy the relationship between financial literacy and the person's general intelligence on the individual level. It shows the summarized results of logical puzzles which were set to measure three different difficulty levels. If this variable is zero, then the person didn't score anything on the riddles; it is one if one point was gained, two if two points and three if three points were scored. The reason behind using such questions of logic was that I expected that cognitive abilities would have a positive effect to financial literacy. This measurement of intelligence was expected to cover causes behind financial literacy in the individual level. There were three questions in this category, set in an order of difficulty, starting from the least difficult one (Horváth, 2012, p. 31). These questions were meant to be providing a wide map of the individuals' cognitive ability. If they can score all three of them, they either have a **very able mind**, or they knew some of the questions already (which some people did admit indeed). If they can score two out of the three, they are considered **normal** in terms of cognitive ability. In the case where someone scores one out of the three, he or she will be considered either somewhat inattentive or **less cognitively able**. If they score none, they are considered the **least cognitively able**.

The **logical questions** were the following, starting with the least difficult one. *"Two Native Americans sit in a boat. The little one is the son of the big one but the big one is not the father of the little one. How is this possible?"* (The right answer is that the big Indian is the mother of the small Native American.)

The second logical question was *"If a person can make one cigarette out of four cigarette butts, and one night he finds 16 butts, how many cigarettes can he make that night if he doesn't keep on looking for butts?"* (The right answer is five.)

The third, supposedly most difficult question was one which has meaning in Hungarian language but I will translate it into English language. *"What comes next in this line: O, T, T, F, F, S, ?"* (The line itself is the first letter in the "one, two, three, four, five, six" line and "S", "seven" comes next.)

Savings indicate the category of money the individuals have put aside. One in this variable means that they chose not to give an answer; two means they didn't have any savings; three stands for having savings between 0.5 – 1 million HUF, while four means they have savings between 1 – 10 million HUF. Five indicates the ownership of savings above 10 million HUF.

There were three questions asked to see that to what extent the participants agree with capitalism and free markets, these are collectively called **Values on capitalism**. It includes a question on profit, one on state intervention and the last one on entrepreneurialism. The first question, which accounts for the **Profit** variable, was termed as the following. *"How much does the profit-making activity of economic actors bother you?"* The possible answers were: zero = Else, one = Very much so, two = It does bother me, three = Moderately, four = A little, five = Not at all**.** The question about state intervention which accounts for the variable **State** was termed as the following. *"How much would you agree if the state would provide compensation to people who had acquired credit in foreign currency, and the change in the exchange rate resulted in higher payback schemes? (Suppose there is no political risk involved.)"* The possible answers to this are: zero = Else, one = I'm not informed enough to decide, two = Wouldn't disagree, three = Would agree a little, four = Would moderately agree, five = Would agree, six = Would absolutely agree. The last of this section was the question *"How cool is it to be an entrepreneur in your opinion?"*

There was an expectation that the perception of entrepreneurs in Hungary was rather unflattering, that entrepreneurs were considered to be automatically cheating with the VAT or faking accounts. This expectation was only as scientifically verifiable as an urban legend usually is, but I still decided to include it to see how the situation changed ever since start-ups changed the nature of being an entrepreneur. Answers were coded as zero = Else, one = Not at all, two = A little, three = Moderately, four = Somewhat cool, five = Very cool.

Further on in the models, **Dummies** were included to see whether being highly educated, having a highly educated parent or working in a profession that requires a degree is meaningful in terms of the level of financial literacy. If the dummy called **Highly Educated** equals one, then the person has at least a college degree. If the **Parents Highly Educated** is one, then at least one parent of the participant has either a college, a university or a doctoral school degree. If the individual's profession usually requires a diploma from a college or university at least, then the dummy called **Profession with diploma** equals one.

Regression outputs

Table 1 presents the **regression outputs**. Altogether, one must note that the R^2 of the regression with all the explanatory variables put together still stayed very low, at 18.6%. Such a low R^2 means that the explanatory value of the model is not high at all. What came out as statistically significant explanatory variables to financial literacy were the individual's savings and the fact whether the parents had a degree from tertiary education or not. Based on the Model 12, if a person was categorized as one group higher in terms of his/her amount of savings, then it can be expected that, on average, that person would have scored 0.139 points higher on the financial literacy questions. This relationship is statistically significant at a 5% level but does not imply causality.

Although such a relationship between how much someone understood the fundamental mechanisms of finance and how much money that person managed to save, is an intuitively predictable positive relationship.

And if a person had a parent with a degree in either a college, a university or a doctoral school, then, on average, that person was expected to score 0.492 points higher on the financial literacy questions than otherwise. This relationship is statistically significant at a 10% level but does not imply causality.

Table 1. Regression results for the effect of cognitive ability, views on capitalism, education and savings on financial literacy. Source of data: own collection.

FINANCIAL LITERACY	(1) Model 1	(2) Model 4	(3) Model 5	(4) Model 6	(5) Model 7	(6) Model 8	(7) Model 9	(8) Model 10	(9) Model 12
Cognitive Abilities	0.176***								0.0864
	(0.0595)								(0.0645)
Age		0.0315							
		(0.0490)							
Profit			0.0637*						0.0108
			(0.0350)						(0.0366)
State				-0.0399					-0.0422
				(0.0379)					(0.0395)
Entrepreneurialism					0.0790*				0.0556
					(0.0414)				(0.0415)
Savings						0.179***			0.140***
						(0.0412)			(0.0463)
Highly Educated (dummy)							0.433***		0.219*
							(0.111)		(0.126)
Parent HE (dummy)								0.389***	0.230**
								(0.111)	(0.115)
Constant	2.196***	2.305***	2.141***	2.509***	2.164***	1.902***	2.129***	2.158***	1.598***
	(0.0860)	(0.137)	(0.144)	(0.131)	(0.140)	(0.132)	(0.0880)	(0.0876)	(0.244)
Observations	223	222	220	220	210	223	223	223	205
R-squared	0.037	0.002	0.015	0.006	0.019	0.069	0.066	0.054	0.168

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Interestingly, a number of observations had a statistically significant relationship with the financial literacy variable until they were all included into Model 12, although their models' R^2 values were all below 1%.

In sum, the econometric models I used to predict which variables can explain financial literacy scores were resulting in a low explanatory value. But what they do is that savings and a highly educated parent seems to be in a positive and statistically significant relationship with how many points the person scored on the financial literacy questions.

Descriptive Statistics of the pattern of financial literacy in Hungary

This section describes the main statistics of the results apparent from the data. Firstly, the results on their own are presented, then they are compared with the pattern of financial literacy in the United States from the Lusardi – Mitchell research (Lusardi – Mitchell, 2014, p. 11).

A total of **223 individuals** were reached with the online survey. In detail, there are 128 (57,3%) women and 94 (42,3%) men. One individual chose not to or forgot to select the **gender** category.

In terms of the participants' **age**, the majority are between the age of 20-29, 132 (59,2%). The second biggest group is the 30-39 years old group with 24 answers (10,8%); the third biggest is 50-59 years-of-age group, with 23 answers (10,3%) followed by the below 20 years-of-age group, with 18 answers (8,1%). Apart from this, 16 answers indicated an age between 40-49 years (7,2%); and nine people above 60 years-of-age (4%).

As for the participants' **educational background**, most of them completed a university degree, with 94 answers (42%). 32 of them completed a **college degree** (13,7%) (or the equivalent of a bachelor's degree in the Bologna System). 64 individuals completed **high school**, while 20 (9,3%) completed a **vocational high school**. The smallest groups are the one with nine individuals who completed an **elementary school** (4%) and five individuals (2,2%) completed a **doctoral program**.

Their **parents' completed educational qualification** was asked as well to inform us about the individuals' family background and thus give a proxy to the possible social position of their family. It is expected that the higher the parents are qualified, their children will have a higher social status, which can result in having a higher financial literacy level. The parents with a university or college degree were highly represented with 112 (50%). The second largest group was the one with parents who completed secondary education of some sort with 75 answers (33,5%). The third largest group is made out of individuals whose parents completed elementary school, with 21 answers in this category (9,4%). 16 people (7,1%) answered that one of their parents has a doctoral degree.

The individuals' **professional fields** were quite varied. 82 people (37,4%) answered that their professional field is the **Economy**. It was followed by 27 answers (12,3%) for **White Collar** and 23 (10,5%) answers for **Engineering**. 19 individuals said that they were from the field of **Law** (8,7%), whereas 14 answers came from the **Education** category (6,4%), exactly as much answers as for the pool of **Something else**. This latter category includes answers like Social sciences, Liberal arts, but not a teacher, Skilled labour, Tourism (which, according to my categorization should have gone to Economy), Applied Arts, Information Technology three times, Student two times, Co-worker in a foundation. The following groups were the last in order: **Production** got a

representation of 12 answers (5,5%), **Healthcare** got 11 answers (10,5%), **Blue Collar** had a total of nine answers (4,1%) and seven answers (3,2%) came for **Entrepreneur**, one answer (0,5%) came for working in **Governance** (Public Policy).

I looked more closely at which professions had any significant relationship with financial literacy points gained, **Table 2** shows the result. The Economist professions seems to be in a positive and significant relationship with financial literacy points which is an intuitive result, whereas people from the educational field in the data seems to be negatively correlated with the dependent variable, at a 10% significance level.

Table 2. The relationship between different professions and financial literacy. Source of data: own collection.

	(1)	(2)	(3)	(4)	(5)
Financial Literacy	Model 1	Model 2	Model 3	Model 4	Model 5
Econ	0.584***				
	(0.0978)				
Law		-0.129			
		(0.217)			
Health			-0.210		
			(0.224)		
Engineer				0.108	
				(0.149)	
Education					-0.559*
					(0.290)
Constant	2.169***	2.392***	2.392***	2.370***	2.416***
	(0.0735)	(0.0576)	(0.0574)	(0.0600)	(0.0554)
Observations	223	223	223	223	223
R-squared	0.115	0.002	0.003	0.002	0.027

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The first riddle (Logic 1) received 129 (63,3%) **right** answers, while 42 (20,5%) people answered **wrong**, and 33 (16,1%) people **didn't answer** (either left it blank or wrote some personal

message which was not an answer). For the second riddle (Logic 2), 36 people (17,6%) got the right **answer**. Here I must note that many people gave the answer "more than 4" which I didn't accept because there was a concrete answer to the question, not a range of numbers. 163 people (79,9%) gave a **wrong** answer, and 5 people (2,4%) gave **no relevant answer** at all. For the third question (Logic 3), 43 people (21%) answered **right**, 81 people (39,7%) gave an answer which was **wrong**, and 80 people (39,2%) **didn't give a relevant answer**. The number of people who got all three right was 14 (6,3%), the ones who scored two out of three was 54 (24,2%), whereas those people who could answer one question right were 84 (37,7%) and 71 (31,8%) people didn't give any right answer. The distribution described here can be seen in **Figure 1** below.

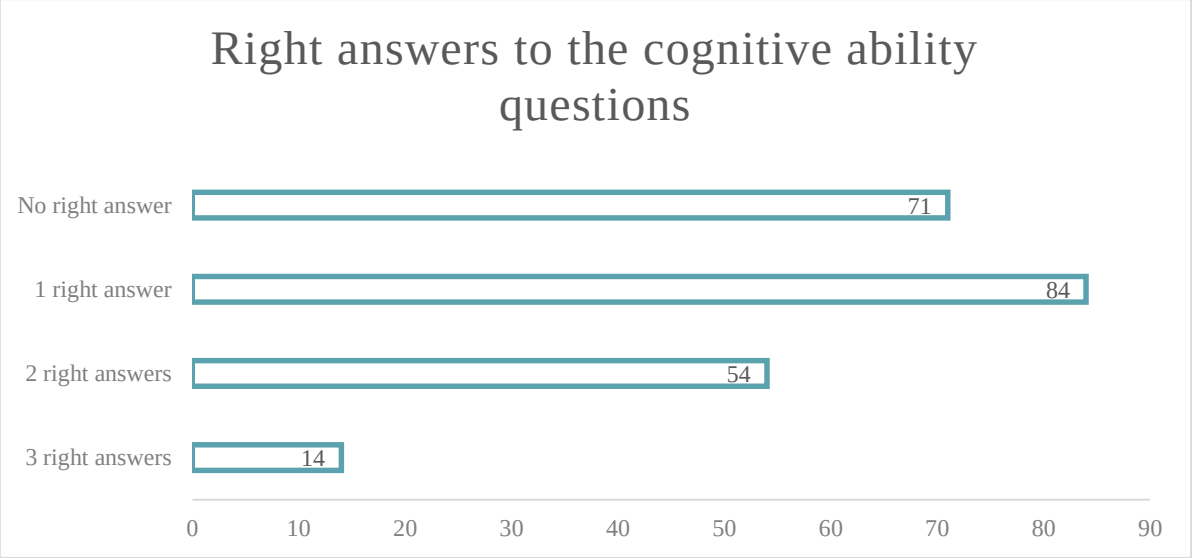

Figure 1. Distribution of right answers to the Cognitive Ability questions. Source of data: own collection.

It is interesting to see the different questions' separate statistics shown in Figures 2-3-4 below. They show how the level of difficulty was growing as the number of no answers given (the category of X) were growing. One signifies the right answer, while zero is the wrong.

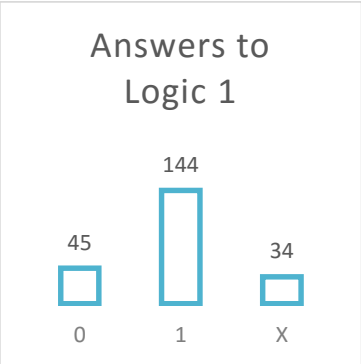

Figure 2. Answers to Logic 2.

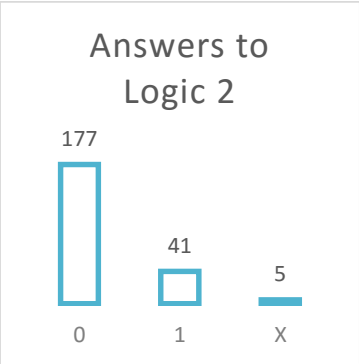

Figure 3. Answers to Logic 1.

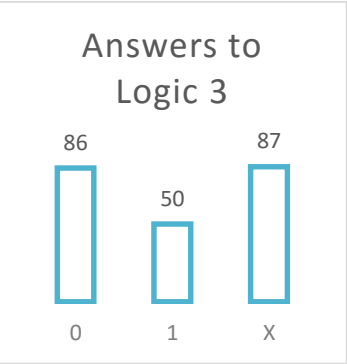

Figure 4. Answers to Logic 3.

The financial literacy questions received a much better rate of good answers than the cognitive ability ones. The distribution of the right answers can be seen in **Figure 5**. The number of people who got all three financial literacy questions right was 128 (57,4%), the ones who scored two out of three was 59 (26,5%), whereas those people who could answer one question right were 29 (13%) and seven (3,1%) people didn't give any right answer.

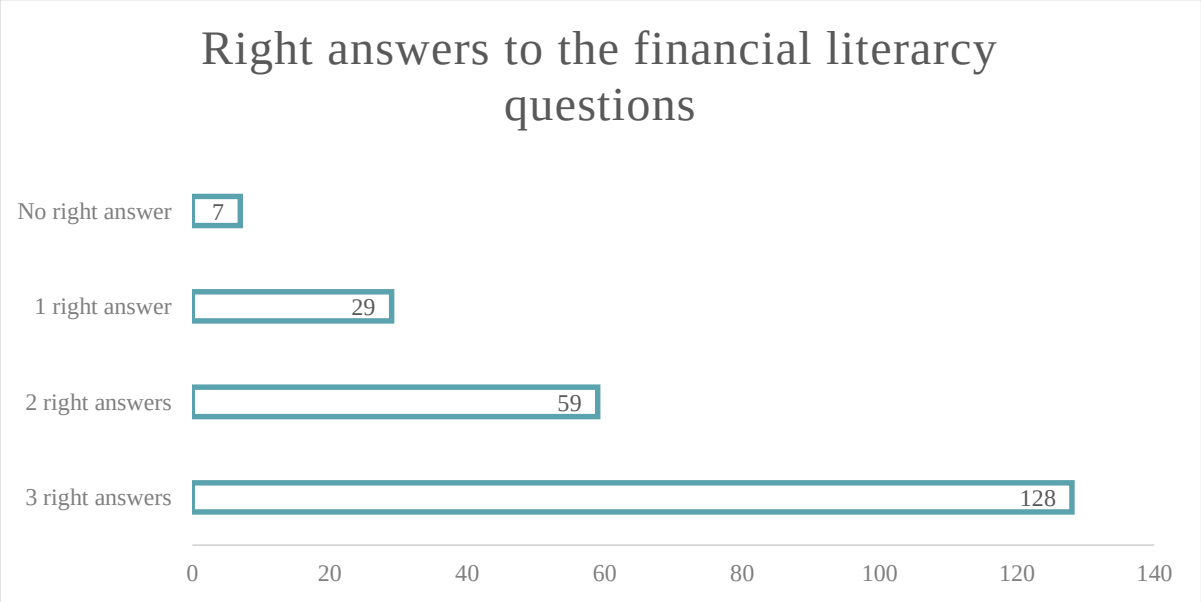

Figure 5. Distribution of right answers given to the financial literacy questions. Source of data: own collection.

The savings distribution looks like the following, picture on **Figure 6.** It has the lowest number of answers in the highest savings category, 14 (6,3%) of the total answers and the rest of the categories – chose not to answer, has no savings, has savings between 0.5 – 1 million HUF and 1 -10 million HUF – got an equal range of answers, between 47-50 answers (21,1% - 25,1%).

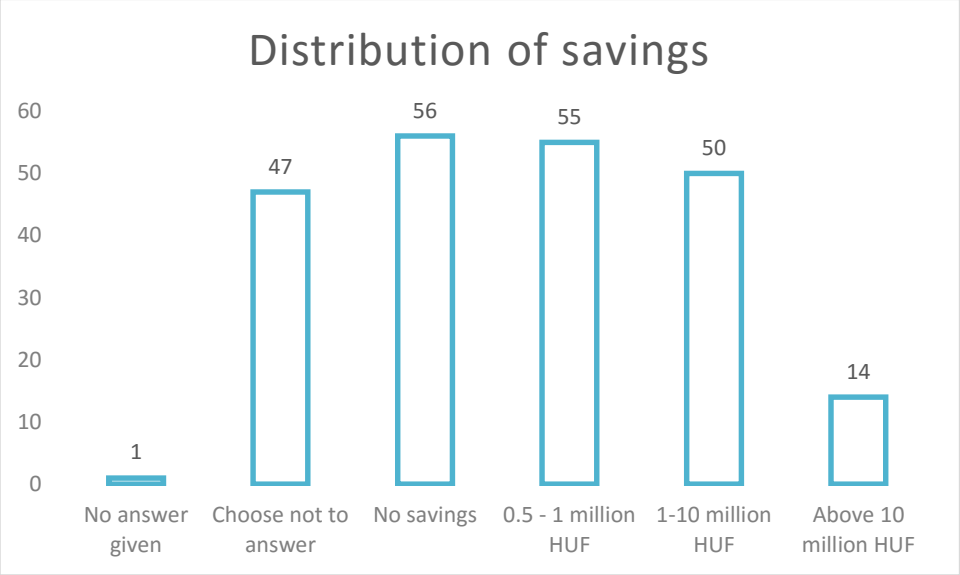

Figure 6. Distribution of savings of participants. Source of data: own collection.

Views on capitalism

Profit-making activity analysis

The perception on the **profit-making activity** of the economic actors were mainly not bothering the participants at all, with 120 answers (53,8%) saying they are not at all bothered. 34 people (15,2%) said that they were a little bothered, while 84 answers (38%) admitted to being at some level bothered with this phenomenon of the free market. The very much bothered category made up 10 answers (4,5%) of the total. In the answers that chose to give an own explanation (the Else category), it was 50-50% to either describing how they understood the beneficial side of this

activity on their own lives, and the rest was forming an opinion against profit-making that comes in an unfair, disproportionate size as compared to the value it seems to create. **Figure 7** shows the answers altogether by category.

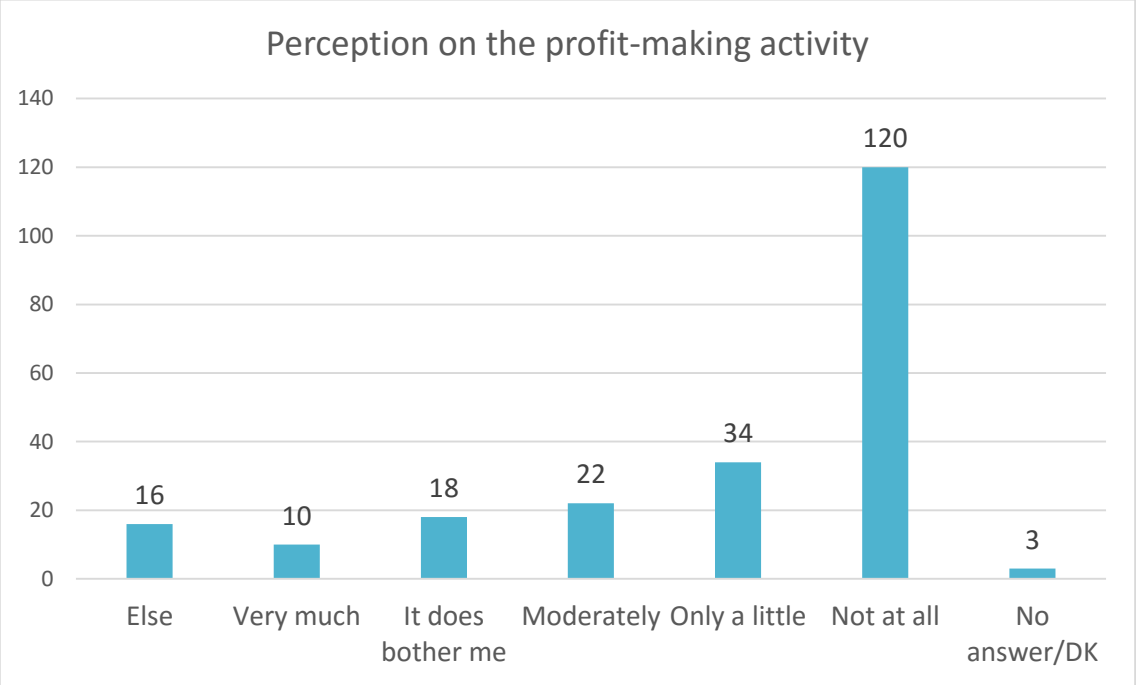

Figure 7. Perception on the profit-making activity of economic actors. Source: own collection.

Taking a closer look at the opinion in terms of their possible relation to the participant's age and education, it can be seen that both the effect of age and education have a statistically significant relationship with the view on profit-making, at a 1% level. If a person is in an older age group, he or she is expected to view profit making in a less tolerant way, whereas if a person has one unit higher educational background, then he or she is expected to view profit-making in a more tolerant light. And if a dummy is used to show only the answers which are bothered with profit-making to some extent, it can be seen that the strong relationship in Model 1 reduces to a less significant level at 10% but keeps its sign. So, if people who are older, are expected to tolerate

profit-making less (get bothered more). In Model 2, the coefficient for the education variable reduces but stays significant at a 1% level. Both of these results can be a possible form of the Socialism experience where profit-making was not supported. But the results should be treated with cause on since the models' R2-s are only around 3-5%. These results can be seen in **Table 2**.

Table 2. The relationship between views on profit-making activity and age, education. Source of data: own collection.

	(1)	(2)
Profit	Model 1	Model 2
Age	-0.249***	-0.0484*
	(0.0946)	(0.0274)
Education	0.260***	0.0761***
	(0.0894)	(0.0279)
Constant	3.495***	0.381***
	(0.377)	(0.115)
Observations	219	222
R-squared	0.053	0.035

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

State intervention analysis

The answers for the state intervention question were more evenly distributed as **Figure 8** on the next page shows us. 54 people (24,2%) voted for not agreeing with any compensation originating from the state, while 57 people (25,6%) said they would agree a little. The number of those who would agree in a range from moderate to absolute, is 79 (35%). This latter phenomenon is arguably the heritage of the long years of centralized, all powerful state if the question itself is appropriate enough to conclude from. **Table 3** on the next page shows that the relationship between age and the tolerance of state intervention is negative and significant, while education is negatively related to it but not significant statistically. So, the higher the age of the participant, he or she is expected to have a less tolerant view of state intervention in the case of debtor compensation which

is just the opposite direction than what could have been concluded from the Socialism inheritance argument, even after only looking at an OLS where age and education are regressed on people who agree in some form with state intervention. It remains a significantly negative relationship, even though the coefficient decreased by more than 50%. Although it must be noted that the R^2 is only 5,9% in Model 1, then 6,8% in Model 2 which doesn't equal to a reliable model.

Table 3. The relationship between views on state intervention and age, education. Source of data: own collection.

State Intervention	(1) Model 1	(2) Model 2
Age	-0.230***	-0.100***
	(0.0874)	(0.0274)
Education	-0.137	0.000935
	(0.0903)	(0.0283)
Constant	4.211***	0.881***
	(0.363)	(0.111)
Observations	219	222
R-squared	0.059	0.068

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

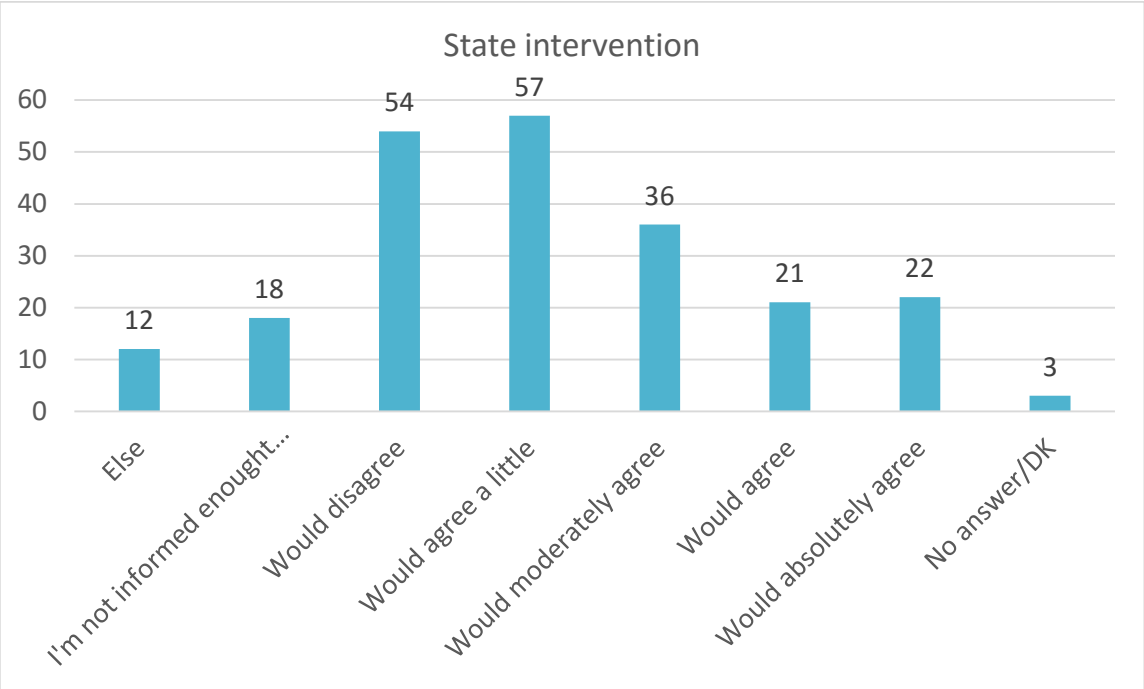

Figure 8. Views on the role of the state in a free market. Source of data: own collection.

Analysis of the views on entrepreneurialism

Concerning the views on being an entrepreneur, the majority of the people with 168 answers (75%) thought that it was an agreeable profession to some extent, 25 people (11,2%) though it was not agreeable at all, 13 gave no answer (5,8%) and 17 shared their opinions outside the answers (7,6%). The distribution can be seen on **Figure 9**.

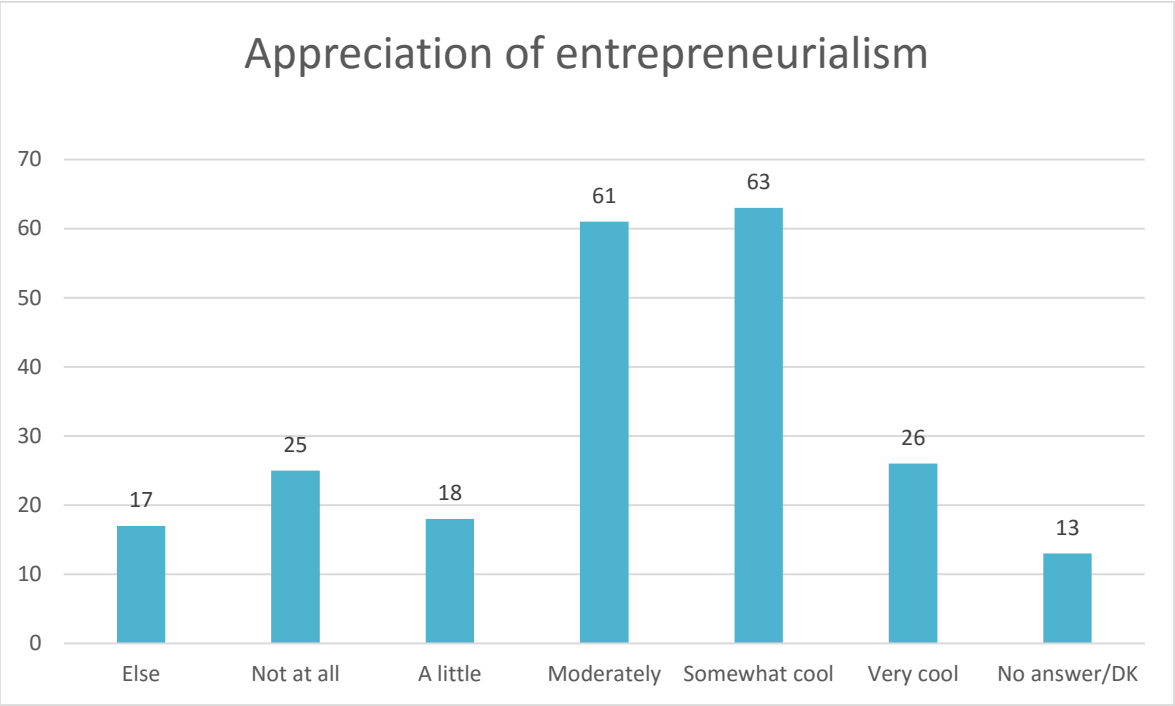

Figure 9. Appreciation of entrepreneurialism. Source: own collection.

Looking at the effect of age and education on this view, it can be found that at a very low R^2 level of 4,6%, the higher age group a person is, it can be expected that the less desirable his or her opinion is on being an entrepreneur. So the correlation is negative, and statistically significant at a 1% level. And if someone is more educated, then he or she is expected to find this profession more agreeable, which coefficient is thus positive and significant at a 10% level. If I only look at the relationship between finding entrepreneurialism at some level agreeable, then the effect of age and education on it is smaller with a smaller R^2 (4,1%), but the coefficients stay at the same significance level as before. **Table 4** on the next page shows these regression outputs.

Table 4. Relationship between views on entrepreneurialism and age, education. Source of data: own collection.

Entrepreneurialism	(1) Model 1	(2) Model 2
Age	-0.267***	-0.0628***
	(0.0904)	(0.0240)
Education	0.157*	0.0426*
	(0.0880)	(0.0240)
Constant	3.066***	0.815***
	(0.371)	(0.102)
Observations	209	222
R-squared	0.046	0.041

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In summary, the sample is distorted towards more educated people whose parents are also higher educated and thus are expected to gain higher financial literacy points. The distortion is explainable with the fact that the survey could mainly reach for people who were using a technical gadget and the internet skilfully and who were part of my social circles. What can be seen as a pattern of financial literacy is that education came out as the furthermost significant variable explaining financial literacy levels, whereas having more savings is closely linked to having a higher financial literacy level. These relationships are intuitive but it is always beneficial to see them confirmed empirically. All the same, even with significant correlations like these, the data cannot show us anything about the causation between the explanatory variables and financial literacy.

SUMMARY, LIMITATIONS AND A POSSIBLE FURTHER RESEARCH

This paper was set out to provide information on the pattern of financial literacy in Hungary. For this, in the first part, a general review of financial literacy and its policy relevance was

provided, with a strong emphasis on the measurement of financial literacy. The second part of the paper was about measuring financial literacy in Hungary.

The essential data for the research came from an online survey and reached a sample of 223 people. Although the data itself doesn't represent the Hungarian population which is a clear limitation of the paper, the research showed interesting relationships of variables that can explain the level of financial literacy. These variables included a set of three questions that show the person's cognitive ability; a set of three questions that measure the person's financial literacy which questions were used accordingly with the research that was made by Lusardi and Mitchell on representative populations. The rest of the questions related to the person's views on different free market mechanisms -profit-making, state intervention, entrepreneurialism- and one question researched the amount of savings the persons owned. These being the explanatory variables, the research also controlled for the person's age, education and educational status of the family. A **possible further research** could be conducted on a much bigger sample which aims at being representative of the Hungarian population. Or moving towards behavioural economics, since it is natural to expect that financial literacy – like other forms of human capital and intelligence – might evolve over the life cycle and the limited evidence to date bears out this prediction. Just as Willis (2009) discusses how overall cognitive ability constrains and shapes financial literacy issues, the paper could aim at a direction that has more to do with the individual level of financial literacy. A third possibility is a more macroeconomic one. It could be researched with an emphasis on the link between the level of financial literacy and the economic growth of a country.

CONCLUSIONS

We can conclude from the survey -which data is distorted towards more educated people whose parents are also higher educated and thus are expected to gain higher financial literacy

points- that being highly educated can serve as explanation to some degree for the level of financial literacy; also, that having a higher amount of savings (or having savings at all) could also be one of the variables that is in a strong relationship with financial literacy. Moreover, the data also shows that the younger a person is, the more likely he or she would be more tolerant towards traditional free market mechanism and rely less on the help of the state in financial matters. This latter correlation is not showing any causation between the Socialist past and the current level of financial literacy but provides some interesting input for it.

As for the policy-making part, this paper came to the same conclusions as the Hungarian state already has, that is, the younger generations need to be targeted for financial education. For further ado in this part, it is recommended to support the policies with data, and a research that is representative to the population should be conducted to see a more realistic level of financial literacy.

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