Is the Financial Literacy Affected by The Field of Study? (A Comparison of Specialised Secondary Schools)

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Abstract: The transition to a market economy system, changes in the lifestyle, the impact of new technologies, strengthening marketing efforts of financial intermediaries, all place increasing pressure on the ability to make correct financial judgments and the decisions, generally referred to as "financial literacy". However, the content of this term is not defined precisely, many research studies analyzed this phenomenon and confirmed relatively low levels both in adults and in the young generation and its dependence on many factors. The aim of our study is to find out if the level of financial literacy is affected by the field of the study. We used a questionnaire-based research methodology. We asked two student groups to compare and provide the solution to three model financial situations. One group included students of a business academy and the second group included students of a secondary grammar school. Our results confirmed the slightly higher level of financial literacy of the students of the grammar school. The differences between these two groups of students did not confirm the impact of the field of study but turned our attention to other influencing factors.

Keywords: Financial literacy, Secondary school, Finance, Management of family finance

1. Introduction

The transition to a market economy has changed the way of decision making at various levels of the economic system. One of the main features of these changes has been an individual responsibility for personal affairs: a person acquires his/her responsibility for his/her employment, education, health care, etc. Transition has brought about a quite new and still unaccustomed way of thinking in the management of personal and family finances. Changes in lifestyle, the impact of new technologies and technical means, strengthening of marketing efforts by financial institutions along with the development of the global economy in the last decades. all placed increasing pressure on individual ability to make financial judgments and decisions. At the same time, the complexity and the difficulty of the decision-making increases in respond to the growing complexity and intensified dynamics of the financial world.

The spectrum of situations that have to be solved on an individual base is expanding. "Individuals are taking responsibility for a growing number of financial decisions" (Hung et al., 2009, p. 5). Along with this process, there are growing demand for required information and the knowledge of methods and procedures for rational solving of these situations. The rapid expansion of complex financial products in the retail marketplace, such as mortgages, credit cards, consumer loans, pension accounts, and their rational use proves to be difficult for the users with basic education. On the other hand, there are many day-to-day situations the solution of which requires more than specific theoretical knowledge, such real data and practical experience. All these facts contribute to the rising need for more a extensive body of knowledge and experience generally referred to as financial literacy.

The need to increase the financial literacy of the general population is frequently stated by politicians, educationalists, and professionals. Many researchers point out the effects and consequences of financial illiteracy on the whole economic system. But there is yet more attention to be devoted to development of a systematic solution to this problem. The reason

can be seen, *inter alia*, in the fact that this ability depends on many aspects and reflects many elements of the economic, social and cultural system. In the transition economies, it involves other, specific dimensions.

One of the results of these changes is the fact that the younger generation, more than a previous, has to face many situations revolving around financial decisions with a significant impact on a family's or an individual's financial situation. On the other hand, it is the young generation that has far more opportunities to acquire experience in finding solutions to such situations. In addition, they can acquire more or less knowledge for their solution in their fields of the study. In the business academies, secondary school students acquire a relatively wide range of information in the field of business economy and financial market. Thus, we can assume that the students of this type of secondary education have a relatively high degree of financial literacy compared to other students. To find out if the level of financial literacy of the students of secondary schools depends on the studied field became the impetus for our research.

2. Literature Review

Financial literacy and illiteracy has been a topic of research studies for the last three decades. The majority of them focused on the level and extent of financial literacy and on illiteracy closely tied to retirement planning and wealth accumulation (Lusardi et al., 2011, Behrman et al., 2012), especially in the United States. The authors stumbled upon, from various points of view, a fundamental problem: large segments of the US population has a low level of financial literacy. The content of the term financial literacy was derived from the ability to plan the funds for the retirement age.

Focus on the problem of financial education intensified at the end of the last century with the increase in financial market operations facilitated by the development of information and computer technologies. The researchers aimed to analyze the ability to make the financial decisions from many points of view: they assessed, for example, the impact of financial decisions on personal life and on wealth, the relation between wealth and financial education, the effects of the investment in the financial education (Lusardi et al., 2011), etc. The other studies focussed on the problem of how to measure the level of financial literacy. Some studies concluded that there is not any connection between financial education and the level of financial welfare, while others stressed that obligatory financial education in high schools significantly increased the adult propensity to make savings (Bernheim et al., 2001). Many studies were conducted to measure and compare this ability to plan and make savings in various countries, social groups or generations to examine the links between the financial knowledge and the savings and investment behavior (Delavande et al., 2008, Lusardi & Mitchell, 2011). Albeit the number of studies on financial literacy is increasing, there is no clear consensus about what financial literacy actually is. Some researchers aimed to define what the category includes. Most often financial literacy is described as financial knowledge (Huston, 2010), but many researchers point out that it is a broader category and stressed that being able to make the right decisions is also an additional component. Lusardi & Tufano (2015) extended the concept of financial literacy so as to include decision making in elementary everyday choices, e.g. payment methods, use of credit cards, maintaining a family budget, making mobile payments, etc. Some authors try to classify the elements of financial literacy (Remund, 2010, Lusardi, 2012, Hung et al., 2009).

A special group of studies aimed to assess the financial literacy of young people and students of both secondary schools and universities (Balász et al., 2016, Agnew & Harrison, 2015, Montanaro & Romagnoli, 2016). Their findings emphasized some new aspects of financial literacy and factors that influence its level and scope: students from rich families prove to have poor financial literacy compared to students from poorer backgrounds. Furthermore financial literacy is more related to foreign language skills and general cognitive aptitude or the level of social integration, gender differences, etc.

The complexity of the phenomenon of financial literacy and the ambiguous definition of this term makes it very difficult to formulate tools for measuring and comparing it. One of the tools, a questionnaire developed by Balász et al. (2016), has been created with the aim to compare the level of financial literacy in two groups of secondary school students from two different countries. We have used this questionnaire in our research.

3. The aim, Research Methodology, and the Sample

The aim of this study is to find out if the level of financial literacy is affected by the studied fields. We compared selected attributes of financial literacy of students of two types of secondary schools, i.e. a secondary grammar school and a business academy. The curriculum in the business academy provides quite a wide set of knowledge in economics and finance. We supposed that the field of study and the systematic knowledge gained in the business academy influences

the way and rationality of financial decision-making, regardless of students’ gender. This supposition formed the base for the scientific hypotheses formulation in our research:

H1: The level of financial literacy measured by the selected three situations is higher in the set of business academy students.

H2: The level of financial literacy is conditioned by the field of study.

The research adopted a questionnaire method. The questionnaire was formulated based on prior literature. We used the questions-model situations used in the research of Balász et al. (2016). The aim was to compare the level of the financial literacy of secondary school students – from business academies in two different countries, the Czech Republic and the Slovak Republic. The aim of our research was to extend its results to a related area.

The questionnaire in our research consisted of four parts. The first part provided identification of respondents including their age and the achieved level of parents’ education. The second part included three model situations. The respondents had to choose one from the suggested solutions which is the best according to their point of view. The model situations represent three basic, most prevalent situations in day-to-day life, where some financial information and knowledge, as well as experiences, are necessary: the process of creating savings, the process of obtaining external finances through the bank loan and the process of paying for goods and services. The resulting data were processed using the basic statistics (percentage) and the chi-squared test to test the significance of differences. More details about the model situations and results in both students’ groups are presented in part 3.

The sample of respondents consisted of two groups of students, 16 – 18-years-old. The first one was formed by the students of a business academy (46 in total, 19 male, 27 female). The second group was formed by the students of a secondary grammar school (73 in total, 26 male, 47 female). There were quite great differences in the level of parents’ education in the two groups of students. As this fact could affect the results, we have added this information to the data set description presented in table 1.

Table 1: Data Set Description

	Business Academy (BA)				Secondary grammar school (SGS)			
	<i>Number</i>		<i>Level of parents’ education (in %)</i>		<i>Number</i>		<i>Level of parents’ education (in %)</i>	
	<i>abs.</i>	<i>in %</i>	<i>Mother U/S</i>	<i>Father U/S</i>	<i>Abs.</i>	<i>in %</i>	<i>Mother U/S</i>	<i>Father U/S</i>
Male (M)	19	41.30	x	x	26	35.60%	x	X
Female (F)	27	58.70	x	x	47	64.40%	x	X
Total	46	100.00	26.1/69.6	23.9/65.2	73	100.00%	74.0/26.0	72.6/27.4

Source: own investigation

Note: U/S = university degree / secondary degree of various orientation (professional, comprehensive)

4. Results and Interpretation

4.1 Model situation № 1

In the first instance of the questionnaire, we investigated the ability to manage personal savings. This ability represents one of the elementary abilities to ensure a higher quality of individual life because it is not threatened by unexpected fluctuations in revenue and expenditure. The answer lied in the selection from four proposed variants of solution. The proposed solution focused on different phases of the economic cycle, only in the last one the savings creation was assessed in connection with the volume of the personal income and expenditure. The question and proposed answers, and the frequency of responses are presented in table 2.

Solution No. 2 was considered as the correct one. In both groups, the answer No 2 was the most frequent. The proportion of correct answers was lower in the group of BA students compared to the group of the SGS students. But in the BA group, the fourth solution was also very frequent (32.6% cases) which can be considered as a more conservative, more cautious or thoughtful approach. In the SGS group the answer No 4 was also quite frequent (26%), but the proportion is a little lower. The significance of the differences between the answers in the two groups was measured by the chi-squared test.

Table 2: The results of the first model situation

1st question-model situation: <i>At what stage of the economic cycle it is advisable to save money?</i>					
	BA together M/F	SGS together M/F	BA together M/F	SGS together M/F	p-value total M/F
	46 19/27	73 26/47	100% 41.3%/58.7%	100% 35.6%/64.4%	
a) in the recession phase because of the need to prepare for bad times.	9 2/7	10 5/5	19,5% 4.3%/15.2%	13,6% 6.8%/6.8%	
b) in the phase of expansion, because people have higher salaries.	22 10/12	41 13/28	47,8% 21.7%/26.1%	56,2% 17.8%/38.4%	
c) savings do not make sense.	0 0/0	1 1/0	0 % 0%/0%	1,3% 1.3%/0.0%	
d) it depends on the current revenue and expenditure.	15 7/8	19 7/12	32,6% 15.2%/17.4%	26,0% 9.6%/16.4%	
<i>chi-squared test: critical value: 5% = 7.815 1% = 11.341</i>					10,747 3.492/11.276

Source: own investigation

Note: M = male, F = female

The value of the chi-squared test for the total groups (10,747) is higher than the critical value at the 5% level of significance, and therefore we reject the hypothesis about the similar distribution of results in the groups at the 5% significance level. The differences between the two students' groups are significant. In the case of the 1% level of significance, there is the same situation and we can reject the hypothesis about the similar results' distribution in the groups at the 1% significance level. From the gender point of view, it can be noticed that in the case of the male students' results the value of chi-squared is lower than the critical value, meaning the differences between the male respondents of both groups are not significant. An interesting complement of these results is the number of other solutions, especially of the fourth solution. This can be assessed as a careful approach and a wise solution, too. The higher portion of this solution acceptance is in the BA students' group.

4.2 Model situation № 2

In the second model situation, we tested the ability to assess and to consider all the conditions of a bank loan. The answer was a choice of one from the two offered options, the option b) was considered correct. The results are presented in Table

Table 3: The results of the second model situation

2nd question-model situation: <i>You need to borrow 3.350 EUR for one year. The first financial institution offers the following conditions: the interest rate of 8.95% p.m. with the payment of a fee of 20 EUR. The second financial institution offers the following conditions: the interest rate of 10.99% p.a. without charges for granting the loan. Which offer would you choose?</i>					
	BA together M/F	SGS together M/F	BA together M/F	SGS together M/F	p-value total M/F
	45 19/27	73 26/47	100% 41.3%/58.7%	100% 35.6%/64.4%	
a) the loan from the financial institution A	30 11/19	34 8/26	66,6% 24.4%/42.2%	46,6% 10.6%/35.6%	

b) the loan from the financial institution B	15 8/7	37 16/21	33,3% 17.8%/15.5%	50,7% 21.9%/28.8%	
<i>chi-squared test:</i> <i>critical value 5% = 3.841</i> <i>1% = 6.635</i>					13,552 5.125/11.26

Source: own investigation

The structure of answers is quite different in the two groups: the larger portion of correct solutions was in the group of GS students. The relation of the correct options is 33.3% in the case of the BA students compared to 50.7% in the case of the GS students. This difference was confirmed as significant by the chi-square test, where the resulting value (13.552) is higher than the critical value (3.841) on the 5% level of significance and one degree of freedom. Only in the case of male students was the chi-square value lower than the critical value at the 1% level of significance. That means the differences between the results in the two groups of male students are not significant and can be assessed as similar.

4.3 Model situation № 3

In the third model situation, we tested the ability to assess the advantages and conditions of using various forms of payment. In the third situation, the correct solution was the second one. It was the most frequent answer in both groups: in the BA group 69.6% and in the SGS group 63.0%. Also, the third solution when the students assessed the price as too high for the purchase had a quite high frequency. Some students in the SGS group decided to use an ATM (first solution), while in the BA group this solution was not chosen by any student. The chi-squared test confirmed the significant differences between the two groups in total on both the 5% and 1% levels of significance. Only in the case of the male responses was the test value lower than the critical value at the 1% level of significance. It means there are no statistically significant differences in the responses of the male students in the two groups.

The answers and their distribution in both groups of students are presented in table 4:

Tab. 4: The results of the third model situation

3rd question-model situation:					
<i>Imagine the following situation: You are in a country where all payments are in US dollars. You want to buy pants that cost \$100. What would you choose when you have no dollars in cash?</i>					
	BA together M/F	SGS together M/F	BA together M/F	SGS together M/F	p-value total M/F
	46 19/29	73 26/47	100% 41.3%/58.7%	100% 35.6%/64.4%	
a) I will take my money from an ATM	0 0/0	5 1/4	0 0/0	8,0% 1.3%/5.5%	
b) I will pay with a payment card	32 15/17	46 15/31	69,6% 32.6%/37.0%	63,0% 20.5%/42.5%	
c) It doesn't matter/I will not buy it	14 4/10	21 10/11	30,4% 8.7%/21.7%	28,8% 13.7%/15.1%	
<i>chi-squared test:</i> <i>critical value 5% = 5.991</i> <i>1% = 9.210</i>					11.594 4.600/11.594

Source: Own investigation

5. Conclusion and Limitation

The aim of our research was to find out if the level of financial literacy of secondary school students is influenced by the field of the study. We hypothesized a higher level of financial literacy of the business academy students.

The results did not confirm both the first and the second hypothesis. In the two from the three model situations, the higher financial literacy was confirmed in the group of grammar school students. The first situation was based on some theoretical knowledge, in the second situation, some mathematical judgment was necessary. The higher score of correct answers among the business academy students was only in the third case, requiring more day-to-day experience. Based on these results, it can be concluded that the field of study and systematic knowledge was not confirmed as a prerequisite

for financial literacy. But the research implies many questions. The two groups of students differed in their parents' level of education: a significantly higher proportion of parents with university education was identified in grammar school students. This could affect the solutions that the students chose in all three situations.

All these findings have an important limitation associated primarily with the sample size examined and the structure of the interviewed students. A larger number of students would lead to the increased reliability and explanatory power of the results. Another limitation arises from the choice and construction of the model situations. There is no common agreement among the researchers concerning the content of the category of financial literacy, and thus it is very difficult to measure its level and construct a scale as well as the tool for its measurement. The model situations used in our research allow measuring only three selected and partial elements of the skill referred to as financial literacy. Its construction and wording could be improved, the number of verified situations could be extended and graded according to the difficulty, etc. Our research pointed out the significance of the factors influencing the level of financial literacy, for example, the family living standard or the level of the parents' education, residence, etc. These aspects are highlighted by other researchers (Riitsalu & Poder, 2016). In our research, these aspects were not assessed and their influence we can only assume. This question could become the theme for future research, in which the concentration should be to classify and identify the factors affecting and determining the level of financial literacy.

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