

Financial Literacy of Students of Finance: An Empirical Study from the Czech Republic

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Abstract—Financial literacy is a widely discussed topic on the national and international level by governments, organizations and academia. For this reason, this study analyses financial knowledge, financial behavior, and financial attitudes of students of finance. The aim of the paper is to determine whether the financial literacy of university students studying finance differs from the level of financial literacy in selected OECD countries. The research was conducted at Masaryk University in the Czech Republic. The empirical study comprises questions related to several aspects of financial literacy, such as financial knowledge, personal finance behavior, or decision-making. The results indicate that improvement in financial literacy of university students is still required, even though their major is finance related.

Keywords—Financial literacy, financial behavior, personal finance management, university students.

I. INTRODUCTION

FINANCIAL literacy is currently in the spotlight of researchers and policy makers. The importance of financial literacy is underscored by the interest of international organizations such as the OECD [19] and World Bank [28]. Furthermore, a wide range of research examined the beneficial effects of financial literacy [14], [1], [24], [3]. An increase in the level of financial literacy can solve problems like high indebtedness of households, low levels of savings of households, and the inability to effectively use available financial products [15]. Due to the positive effects of financial literacy, the financial education of citizens was recognized as a key element for financial and economic stability [18]. Twenty three countries have established national strategy for implementing financial education in order to improve the financial literacy of their population [16], [10]. The national strategies target not only an adult population, but also youth [9].

In the literature, we can encounter the terms “financial literacy” and “financial capability”. Initially, financial literacy might have referred to financial knowledge, whereas the broader term financial capability encompassed the behavioral aspect. However, currently it depends on the context in which the terms are used since numerous definitions exist, compounded by the number of national strategies for financial education and organizations delivering such education. Each of them has developed their own definition for the purpose of their strategic goal and targeted outcome. To illustrate this fact we might analyze OECD and World Bank definitions. The

OECD adopted the term financial literacy which includes not only knowledge, but also awareness, skills, attitudes and behavior needed to make sound financial decisions [2]. The World Bank uses “financial capability”. Its definition also comprises of knowledge, skills, personal preferences, and attitudes, behavior together with societal and environmental factors [27]. For the purpose of this article, “financial literacy” encompasses not only financial knowledge, but also financial behavior, attitudes and financial decision making, consequently combining both mentioned approaches. Financial literacy is correlated with numerous factors, including age [25], gender [5], education [31], education of parents [26], income [11], and geographic region [4]-[8].

As financial literacy is correlated with education, the research question is whether university students possess higher levels of financial literacy than the adult population in general, moreover, whether the university students majoring in finance have higher levels of financial literacy. The hypothesis is stated that the students of finance should have a higher level of financial literacy than the adult population in the same country.

II. METHODOLOGY

The quantitative analysis was selected as suitable approach. To examine the financial literacy level the questionnaire from the OECD [2] was chosen to form the core of the survey together with other questions tailored to the cultural context and target group. The survey included questions regarding financial knowledge, behavior, and personal attitudes toward finance. For calculating the overall of financial literacy score, the methodology of the OECD was used [17]. Three different scores (financial knowledge, financial behavior, financial attitudes score) were calculated and applied to the overall financial literacy score. The financial knowledge score consisted of the points for correct answers to basic financial questions testing numeracy, time value of money, interest, effect of inflation, risk, and diversification. The financial behavior score analyzed the reasonable financial behavior of the respondents focusing on their personal finance, managing and budgeting expenses, borrowing, and long-term planning. The financial attitudes score consisted of personal statements concerning tendencies towards money. All three partial scores were comprised in the overall financial literacy score. The survey was conducted at the Masaryk University, Faculty of Economics and Administration in the Czech Republic. To place the results of the analysis in the larger context, the data was compared with the results of the countries included in the OECD analysis. Further research among university students

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was also conducted in other countries, including Hungary [13], Turkey [23], USA [30], and the Czech Republic [6].

III. RESULTS

The financial knowledge of university students of finance ranks very high and in some areas they achieved excellent scores where 100% of the respondents knew the correct answer. The results in Table I indicate that the students have higher level of financial knowledge than the adult population in the Czech Republic. The scored particularly well in simple division, simple and compound interest, and risk assessment. Conversely, the successful rate regarding definition of inflation was less than the general adult population.

Whereas the financial knowledge of students showed excellent results, they did not achieve similar scores in any of the financial behavior questions. For instance, 30% of students have a budget and 56% set long term goals. On the other hand, the financial behavior scores were still in favor of university students rather than adults (Table II).

TABLE I
FINANCIAL KNOWLEDGE

| Financial Knowledge of: | Czech Republic | | Difference in favor of students |
|---|---------------------|--------|---------------------------------|
| | Students of finance | Adults | |
| Division | 100 | 93 | +7 |
| Time value of money | 92 | 80 | +12 |
| Interest paid on loan | 100 | 88 | +12 |
| Calculation of interest plus principal | 100 | 60 | +40 |
| Compound interest and correct answer to previous question | 83 | 32 | +51 |
| Risk and return | 100 | 81 | +19 |
| Definition of inflation | 55 | 70 | -15 |
| Diversification | 92 | 54 | +38 |

Data are based on author's calculations compared with data from [2].
Numbers shown in the table are in percentage (%).

TABLE II
FINANCIAL BEHAVIOR

| Financial Behavior: | Czech Republic | | Difference in favor of students |
|---|---------------------|--------|---------------------------------|
| | Students of finance | Adults | |
| Carefully considers purchases | 91 | 75 | +16 |
| Pay bills on time | 95 | 85 | +10 |
| Keeps close watch on personal financial affairs | 87 | 76 | +11 |
| Sets long term goals and strives to achieve them | 56 | 36 | +20 |
| Responsible and has budget | 30 | 37 | -7 |
| Has been actively saving or investing in the past year | 82 | 72 | +10 |
| Financial product choice after gathering some info | 28 | 28 | 0 |
| Financial product choice after shopping around and using independent info or advice | 72 | 10 | +62 |
| Has not borrowed to make ends meet | 95 | 89 | +6 |

Data are based on author's calculations compared with data from [2].
Numbers are in percentage (%).

TABLE III
FINANCIAL ATTITUDES

| Financial Attitudes Statements: | Czech Republic | | Difference in favor of students |
|---------------------------------|---------------------|--------|---------------------------------|
| | Students of finance | Adults | |
| Tend to long-term saving | 55 | 45 | +10 |
| Tend to think about future | 68 | 69 | -1 |
| Money is not only for spending | 39 | 29 | +10 |

Data are based on author's calculations compared with data from [2].
Numbers are in percentage (%).

Analysis of financial attitudes validated that 55% of participating students are inclined to long-term saving, and 68% of students think ahead about future financial issues. In contrast, 61% of respondents think that money is there to be spent compared to 71% of adults (Table III).

Average overall financial literacy score of adult population in the Czech Republic was around 14 points [2], while average score of students studying Finance at Masaryk University was almost 18 points.

In comparison with other OECD countries participating in the survey measuring financial literacy of adults, the university students demonstrated considerably high levels of financial knowledge and behavior. Yet their attitudes towards finance are not looking to the future.

High financial knowledge was demonstrated, for instance, in Hungary. Highly positive financial behavior could be witnessed in Malaysia and Germany, and positive financial attitudes prevail in Peru (Table IV).

As mentioned, the calculated financial literacy scores were testing the basic financial knowledge to make the results comparable across different nations and continents. All together, the financial literacy score developed by the OECD/INFE [22] measures three components: financial knowledge, financial behavior and financial attitudes which are essential and inseparable parts forming financial literacy. All three elements are necessary and complementary with each other to be used by a financially literate person in order to implement financial sound decisions in the real life situations. In addition to this, the research focus could be shifted to the practical side of financial literacy. We can be highly financially literate in the matter of our financial knowledge, behave reasonably in our financial matters and have set the right financial attitudes, but if we do not use all of that to actually make financial sound decisions, we are unlikely benefit from being financially literate. For this reason, it is important to include this aspect and measure also sound financial decision making.

We can assume from the demonstrated results that the university students of finance participating in this study possess high financial knowledge, have positive financial behavior scores and average financial attitudes. What is going to happen when we test their decision making concerning financial matters? As most of the studies and surveys consider budgeting, financial product knowledge, managing debt, and retirement planning as the crucial research areas [12], [21]. Four questions were developed from the real data and information available from the financial institutions and

financial markets.

TABLE IV
HIGH SCORES

| High Scores of: | Czech Republic | | UK | Germany | Ireland | Hungary | Poland | Malaysia | Peru | South Africa |
|---------------------|---------------------|--------|-----|---------|---------|---------|--------|----------|------|--------------|
| | Students of finance | Adults | | | | | | | | |
| Financial Knowledge | 55 | 45 | 53% | 58% | 60% | 69% | 49% | 51% | 41% | 33% |
| Financial Behavior | 68 | 69 | 51% | 67% | 57% | 38% | 43% | 67% | 60% | 43% |
| Financial Attitudes | 39 | 29 | 49% | 63% | 49% | 69% | 27% | 53% | 71% | 54% |

The question concerning budget consisted of the list of expenses of the household. In addition, the items on the list have different payment frequencies, therefore it is necessary to convert them to compare and calculate the result. The task was to decide if the budget of the household is balanced, surplus or in deficit. To detect the right answer one needed not only numeracy skills, but also deciding which category the budget falls based on the calculations. Only 65% of the students correctly marked this seemingly simple question.

The majority of people have at least one financial product and often it is current account [29], and the selection of the appropriate bank checking account could have a large impact on the tight budgets of many household. The question concerning selecting a bank account related to their actual needs and usage of the account, including the variety of accounts and the complexity fee policies of bank accounts, was created. The respondents were given the choice of three different banks with information based on the real data. They were presented with the information for an imaginary customer. The task was to choose the best option according to the account options offered by banks and in accordance with the customer needs and usage of the account. Not more than 73% of the respondents were able to identify the most suitable current account offer.

The increasing indebtedness of the population [20] and debt problems [7] has led to generating a question addressing debt. The target group was presented with a simple table summarizing the conditions of the loan, based on a real bank offer. The loan information included the total loan amount, time period, interest rate, annual percentage rate, the amount of monthly installment, total amount payable and fees attached to the loan. The participants were asked to identify the total amount of money paid on the interest and fees. The fees and interest paid are important in deciding whether to take the loan or not and when comparing other offers. This task was challenging even for the university students studying finance, with only 39% able to determine the correct answer.

The OECD question regarding calculation of interest plus principle was adapted to real conditions, this time applying tax condition and fees. The original question was correctly answered in 100% cases, whereas the transformed question with tax and fees was 70%.

IV. CONCLUSION

In this paper, the financial literacy of university students majoring in finance was examined and compared with the financial literacy of the adult population within the Czech

Republic. The results indicate that the participating students have higher level of financial knowledge, financial behavior, and overall financial literacy than the adults. Despite the high scores in these areas, the students were not as successful implementing these skills when answering questions focused on the financial decision-making based on real data available in the financial market. On the whole, the participants of the study demonstrated the understanding of main financial principles and their implications on the finance.

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