Financial Literacy in Ukraine and Hungary with special regard to the Performance of University Students

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Abstract

In 2002, the governments of the Organisation for Economic Co-operation and Development (OECD) formally recognised the importance of financial literacy. It was then that the organisation launched a project to survey financial literacy, which has been called the International Network on Financial Education (OECD/INFE) since 2008. The organisation's 132 member countries take part in regular surveys, each using a uniform methodology. This method has become so popular with researchers that it is used by countries that are not members of the organisation/project. Ukraine is one of them. In this work, the authors compare the results of the Ukrainian study with the Hungarian data, taking advantage of the identity of the methodology. The choice fell on these two countries because the authors had an affiliation in Ukraine, but one of them lives in Hungary, so he has a personal relationship with both countries. The choice of topic was determined by the fact that one of their areas of scientific research is the study of the financial literacy of university students. The OECD published the results of its latest survey in 2020. The report also contains Hungarian data. The results show that the performance of both countries studied is close to, but not below, the OECD average; however, they are very close to each other. Nevertheless, the financial cultures of the two countries are significantly different. Ukrainians are more characterized by active management of finances, while Hungarians are attracted to finances above average. In addition to presenting the national results, the authors also compare the performance of Hungarian and Ukrainian university students in financial literacy.

Keywords: Financial Literacy; University Students; Ukraine; Hungary

Introduction

Have you heard of the following terms: factoring, swap, Lombard loan, letter of credit, collection, forex? If so, can you tell me what their point is? No? No problem. You do not even have to be aware of these. What about the concept of interest or credit? If you are not even aware of these, you are more than a century behind. Financial culture is not a product of today. But while it was enough to know a few concepts a hundred years ago, today financial services and innovative products have appeared on the market that are already difficult to keep up with. This was well illustrated by the credit crunch of 2008, which also worsened the income situation of the population and their confidence in the banking world. A particularly important question is how these effects have occurred among young adults, as their generation will soon enter the labour market with up-to-date knowledge and be forced to put the acquired knowledge and skills into practice. Based on these, they will have to make decisions that will no longer result in a degree of merit but possibly in serious financial bankruptcy.

Literature review

Kondratyev, a Russian economist, published his first article in 1922 in which he wrote about the cyclical nature of economic history (Grinin et al., 2016). The essence of his theory is that the great booms and recessions of the world economy alternate in a cyclical manner. While many argue against the theory, what is certain is that in 2020 we were already going through the second global crisis of the century. Crises already functioned in ancient Rome as they do today (Tenney, 1935), viz., they were caused by overproduction or excessive lending. The 2020 crisis was the first in the history of the economy to explode due to a pandemic. However, the economic impact was the same, namely, recession, rising unemployment, loss of income. Although crises are often cited by experts as a “black swan” event (Taleb, 2008), subsequent analyses have always shown that they would have been foreseeable. According to experts, the 2008 crisis was already predictable in 2006. A few months before the coronavirus pandemic broke out, the World Health Organisation had also issued a warning report (WHO, 2019), which, however, was not taken seriously by anyone. So, crises almost never come as a surprise but rather the fact that they hit the world unprepared. Another feature of crises is that, except for the recent health crisis, COVID-19 has a common root cause. They are the result of a loss of control over free market mechanisms (overproduction, over-lending) and the market never restores equilibrium. This always requires state intervention.

As we said earlier, the effects of any crisis are amplified by unpreparedness. Programs and trainings that focus on financial literacy can change this unpreparedness. The impact of the crisis on incomes has raised the issue of financial literacy. A significant paradigm shift in the teaching of the subject has been caused by the fact that the teaching of financial literacy should not only be addressed within the traditional school framework, but also the financial awareness of adults should be developed. This change is well indicated by the transformation of the subject of school economics education (Schug et al., 2009) and the large number of scientific findings related to financial awareness. Research on the financial awareness of university students has a particularly long history (Chen & Volpe, 1998; Lusardi et al., 2010). There have also been two landmark studies on measuring the phenomenon (Huston, 2010; Remund, 2010). The importance of this issue is well illustrated by the fact that, since 2008, the OECD has also been regularly assessing the state of financial literacy in its member countries. The popularity of the methodology developed for this purpose (Kossev, 2020) is shown by the fact that it is also used by many non-OECD member states, e.g., Ukraine, North-Macedonia.

According to the methodology, financial literacy has three components:

- financial knowledge (0–7points),
- financial behaviour (0–9 points),
- financial attitude (1–5 points).

These are measured using a questionnaire using Likert scales and all three sub-areas receive a score, from which the sum of the financial literacy scores is derived, from which the countries surveyed can be ranked. The components of financial literacy are not independent of each other but there is a correlation between them. This is also natural, as the level of knowledge or attitude also influences behaviour, for example (Figure 1).

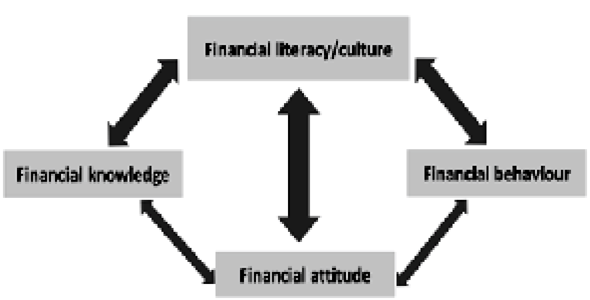

Figure 1 Pillars of financial literacy and and their interactions

Adequate financial literacy is also the foundation of financial well-being, and this is a key issue in any crisis. Part of well-being is responsible financial decision-making and a personal financial safety net (reserves for foreseeable and unplanned income shortfalls). Therefore, the ability to save plays a crucial role in creating financial well-being. The ability to save is also examined by the OECD in its regular surveys.

Financial literacy education started more significantly because of the 2008 crisis. Interestingly, for the first time, it was not school-based but adult-based training. This is probably because the design and preparation of school curricula is a time-consuming process. Financial literacy provides individuals with skills that increase their financial well-being through their daily decisions (Quach, 2016). Educational institutions have now become the primary role in improving financial literacy (Swiecka et al., 2020). Knowledge improves the ability to make financial decisions. Properly transferred knowledge leads to the transformation of individual skills, acquired knowledge into value, and the correct application of theoretical knowledge (Robeyns 2006). In financial education, the effectiveness of competency training depends on how well the curriculum meets the needs (Lyons & Chang, 2007). An important feature of the ability to make financial decisions is that people make a good decision not based on intuition but based on rationality. In addition to knowledge, Kershaw & Webber (2004) placed a strong emphasis on behaviour in the decision-making process, which is also an element of the OECD methodology.

The OECD Financial Questionnaire (Kossev 2020) groups the concept of financial behaviour into three aspects: long-term savings, conscious shopping, cash flow, and tracking of financial transactions. Some behaviours are repetitive, such as paying bills, making prudent purchases, training for regular savings to secure the future, or checking account turnover. These are the basis for continuous financial security and a personal financial safety net. An important criterion is that when approaching financial behaviour from the point of view of savings, the ability to save should be considered and not the stock of savings, as these may come from other sources. Prudent shopping alone is not suitable as a predictive indicator of financial behaviour because in principle almost everyone recognises its importance, but the practice varies considerably between countries and even between respondents. Paying bills on time is a financial behaviour that is largely motivated by external coercion, as failing to do so risks consumers, inter alia, dropping out of utilities or credit card costs. Long-term planning is also a good indicator of the adequacy of financial behaviour. However, its incidence varies significantly from country to country (Kempson, 2018). However, perhaps the most comprehensive survey of financial behaviour is conducted by the World Bank (WB) every three years, not by the OECD. The results of the 2011, 2014, and 2017 surveys are available so far; the 2020 data have not yet been published by the WB. The Global Findex database they compile is the world's most comprehensive set of data on how adults save, lend, pay, and manage risk (Demirgüc-Kunt et al., 2018).

The third component of financial literacy is the financial attitude, i.e., the individual's relationship to money and finances. The Money Attitude Scale (Yamauchi & Templer, 1982) has been used to measure attitudes since the early 1980s, evaluating financial attitudes along four dimensions and distinguishing between viewers of money and savers of distrust and anxiety. The four dimensions correspond to an earlier division (Forman, 1987; Goldberg & Lewis, 1979).

The financial culture in Hungary is assessed not only by the OECD but also by several Hungarian research groups. These studies cover a wide spectrum from the influence of family patterns (Kulcsár & Kovácsné, 2011) through primary (Belinszki et al., 2020) and secondary education (Hornyák, 2013; Kovács et al., 2021) to higher education in economic knowledge (Luksander et al., 2014; Németh et al., 2021). The results of this research also confirm the general trend that all components of financial culture need to be improved. Koval (2021) presents the results of a survey of Ukrainian financial literacy compared to Austria and Slovakia. He describes the role of demographic factors in financial literacy and draws attention to the fact that, for example, despite being exposed to several financial challenges in their lives, women generally tend to perform worse than men. However, he points out that this general trend does not occur in Ukraine, where women have achieved better results than men. Its results show that the respondent country affects financial performance as a determinant. Based on their own research, the authors of the present study would not formulate this statement so firmlysince they previously examined the financial literacy of Austrian and Slovak students, and the country did not prove to be a significant variable in performance.

Research gap and hypothesis

These results raised the research topic of filling the found research gap by comparing the results of Ukraine and Hungary. As a hypothesis, we have expressed the expectation that we cannot expect a significant difference in the level of financial culture between the two countries.

Research methodology

We now compare the results of regular OECD/INFE surveys in our study. We put two countries in the focus of the study. One country, Hungary, is a member of the OECD and participates in regular surveys, the latest results of which were published by the OECD in 2020 (Kossev, 2020). It was included in the countries under review because it is the homeland of one of the authors (Botond Kálmán). The other country from which the other author (Nina Poyda-Nosyk)comes is Ukraine. Although this country is not a member of the OECD, a financial literacy survey using the OECD/INFE methodology was also published here in 2021 (USAID, 2021). The results were processed by statistical analysis, typically by comparing descriptive statistical results. The comparison with the normalised values was performed by expressing the points as a percentage of the maximum score. We also used the minimum target score concept developed by the OECD. The bottom line is that the organisation's experts have established a minimum performance that can be expected of everyone. This is summarised in Table 1.

Table 1: Minimum target concept values and importance order of pillars

Pillar of literacy	Maximum score	Minimum target	Normalised value
knowledge	7	5	71.43%
behaviour	9	6	66.67%
attitude	5	3	60.00%
overall	21	14	66.67%

From a methodological point of view, we also draw attention to the fact that the authors of the report published by the OECD in 2020 (Kossev, 2020) used the data of the survey conducted in 2018 to describe the situation in Hungary.

Data analysis and interpretation

Before we get into the results of the survey, let us look back at Table 1. As you can see, the OECD is much stricter than education systems that generally already declare a 51 percent result to be sufficient. The expectations also illustrate well that knowledge has the greatest role among the components of financial culture. This is not a coincidence as it is impossible to make the right decision without the right knowledge and information. Therefore, the OECD has the highest expectations in this area. Since the value of adequate knowledge only appears if it is put into practice, it is no coincidence that financial behaviour is ranked second. And the third place in the attitude indicates that everyone is forced to make financial decisions, even if they like to deal with finances and even if they prefer to avoid them. Therefore, attitude is less important, but to make successful decisions, we need to be more interested in finance than average (Figure 2).

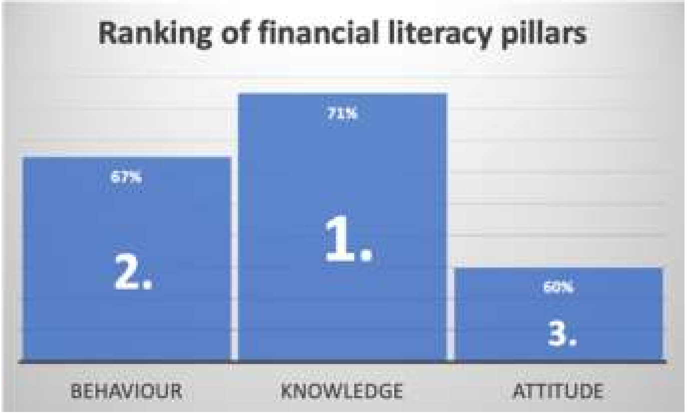

Figure 2: Priority order of financial literacy pillars

So, let us see what the survey results evince about the financial culture of the two countries. Overall, we start the comparison with the value of the financial literacy score (Figure 3).

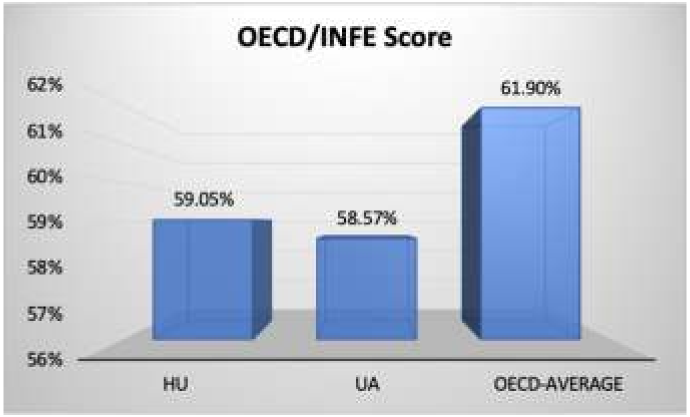

Figure 3: Financial literacy scores of examined countries and OECD

The combined financial performance of the two countries studied does not differ significantly but is about 3 percentage points lower than the OECD average. However, the similarity of the results alone provides little information about the state of financial literacy so it is worthwhile looking further at the level of components (perhaps even deeper).

Financial knowledge

Therefore, we turn to the values of financial knowledge that the OECD considers most important (Figure 4).

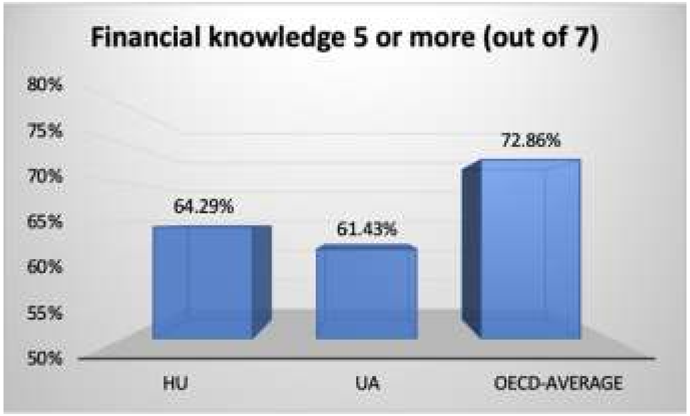

Figure 4: Financial knowledge scores

The proportions of the image shown by the results are like the overall image. Hungary's 64 percent result is surprising because Hungarians still achieved over 87 percent in this area in a pilot study conducted by the OECD (Atkinson & Messy, 2012). However, the Hungarian knowledge score in 2016 was only 67 percent (Atkinson et al., 2016), while in the last survey it dropped further to 64 percent. The reason for the change is to be found in the transformation of the methodology: the pilot study also included a simple division task –in this the Hungarians performed very well. However, this question later became only an optional part of the questionnaire and, if used, the OECD required an increase in the maximum score from 7 to 8. While Hungary's performance continued to wither, Ukrainian financial literacy rose from 57.1 percent to 61.4 percent. This increase of 4 percentage points is even higher than the OECD average (2.9 percentage points). The recognition of the importance of financial literacy by Ukrainian state decision-makers and the development of a national strategy by the National Bank of Ukraine (NBU) probably played a major role in this significant improvement (Bondarenko, 2019). The main goal of the strategy is the importance of financial education for young people and the establishment of a financial literacy hub for the whole of Ukraine. To achieve this goal, the NBU also places great emphasis on the training of teachers competent in the teaching of financial literacy. Implementation started in 2020, with a time horizon of five years. After the first year, the results of a survey conducted using the OECD/INFE methodology (USAID, 2021) have already indicated progress in all pillars of financial literacy. NBU analysts rated the fact that the young adult age group 25–34 had the highest financial literacy score (60.5 percent) as a particularly encouraging result, but adults under 60 achieved the same result (60 percent). Knowledge covers not only financial theory but also, for example, knowledge of financial products (NBU, 2021).

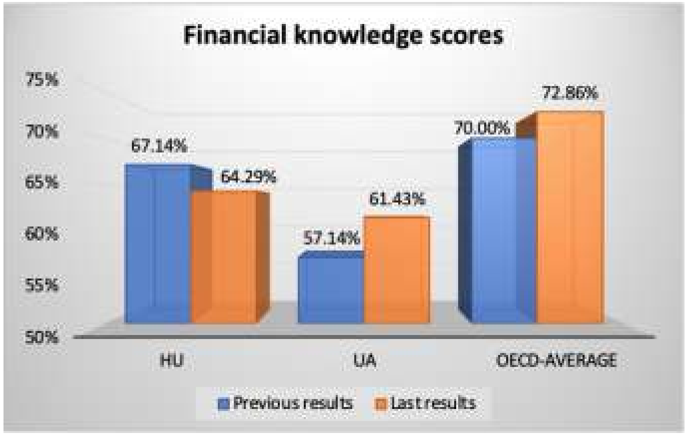

Figure 5 Change in financial knowledge scores in the last two surveys

As part of the strategy, in January 2022, the NBU joined the United Nations Development Program (UNDP), which aims to achieve a green economy and sustainable finances (NBU, 2022a). The transformation of the Ukrainian financial system into the EU has also begun, partly in legislation and partly with the Financial Association Agreement with the EU (NBU, 2022b). We also consider it important to note that the financial strategy managed by the NBU is complemented by other economic decisions that are also expected to have a positive impact on the development of financial literacy. One such programme is the Diia project to create a “Silicon Valley” in Ukraine, the launch and details of which were personally reported on the official website of the President of Ukraine on 8 February 2020 (Zelenskyy, 2022). However, due to the Russian–Ukrainian war conflict that has erupted since then, the further fate of the Diia project has become questionable.

A similar comprehensive programme, the implementation of a four-year financial strategy, took place in Hungary between 2015 and 2019 (Government of Hungary, 2017). Although this programme also aimed to develop financial knowledge, the emphasis was not on knowledge but on the development of decision-making competencies and aligned it with the latest requirements of the National Core Curriculum (NAT) (Government of Hungary, 2020). An essential element of financial education is the recognition of risks and making the right decisions based on the acquired financial theoretical knowledge and knowledge of financial products (Zéman & Bárczi, 2015). To maintain the achieved results, the reformed economic trainings, the financial education in the school system, as well as the national economic strategy adopted for the period 2021–2026 (EBRD, 2021) will of course continue to create a sustainable, stable, and secure economic environment. These government actions had a significant impact on Hungarian financial literacy. In the 2010–2015 OECD surveys, Hungarian performance deteriorated. Not only the up-to-dateness of financial knowledge decreased, but also a negative trend in financial planning, responsibility, and foresight (Jakovác & Németh, 2017). The most important step of the Hungarian financial strategy was that the umbrella organisation for the implementation of the Central Bank of Hungary (MNB) brought together and co-ordinated the already existing various financial trainings and launched for students the “Smart with Money” and the annual “Money Week” programmes. As a longer-term goal, he stated that the appropriate level of education in economics should be included in the curriculum as a compulsory subject. To develop financial behaviour, the “Schools Promoting Non-Cash Payments” programme was launched in 2018 (Németh-Lékó, 2020). The results of these efforts are not yet reported in the OECD 2020 report as the data from the 2018 survey were used for this report by its compilers. More recent 2020 data are also available but only from the young adult age group, which was the result of the research assessing the financial culture of university students (Németh et al., 2021). Overall, this research found that while the level of financial literacy did not change despite the increasing focus on developing financial awareness during the period under review, there were positive changes in attitudes. Students are more confident in finance, they consider it important to have savings, and they collect for safety reserves. However, to strengthen students' financial literacy and risk management skills, more attention needs to be paid to the practical application of financial literacy and to the teaching of investment and entrepreneurship.

Comparing the two countries' financial literacy development strategies, we can see that in both countries the central bank is the integrating body. This is not typical for all countries. Based on a comparative study by the OECD (OECD, 2015), the planning and elaboration of a national strategy is carried out in most countries by a public institution (such as the Ministry of Finance, the central bank, a consumer protection/regulatory authority, or a newly established state organisation). This organisation also usually co-ordinates and monitors the practical implementation of the strategy. The coordinating role is especially emphasised here as both state and non-state actors participate in the implementation in the order of tens or even hundreds. Like Ukraine and Hungary, the central bank co-ordinates the Japanese and Portuguese programmes, and the Ministry of Finance directs and co-ordinates the development activities set out in the national strategies in the Netherlands and Mexico. The United Kingdom and Australia, on the other hand, have set up separate organisations for this purpose. It is also similar in the Ukrainian and Hungarian strategies that the main target group are young people. In addition to the common points, there are also fundamental differences, viz., Ukrainians primarily aim to expand and improve the quality of their financial knowledge, and the focus of the Hungarian strategy is to develop competencies that facilitate correct decision-making. Since a strategy always plans for a long-time horizon, only the future will decide which approach is more successful.

The study of financial knowledge was continued by examining the average percentage of respondents who answered the questionnaire correctly. This study was conducted because the changes between the last two surveys indicate progress but the comparability of the data does not provide a realistic picture due to the different timing of the surveys. The dates of the Ukrainian surveys are 2018 and 2021; the dates of the OECD reports examining Hungary are also 2016 and 2020. However, as described in the methodological part, the 2020 survey is based on the data of Hungary surveyed in 2018. Therefore Figure 6 compares the Ukrainian results of 2018 with the

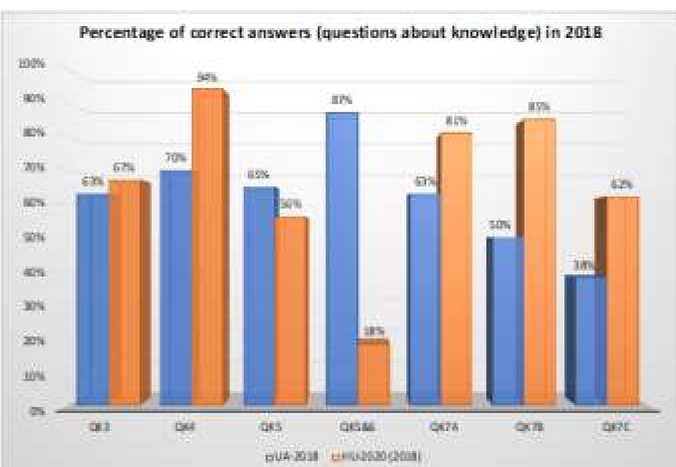

Figure 6 Percentage of correct answers in knowledge questions

Hungarian results of the 2020 OECD report surveyed in 2018. Based on the figure, we can infer that in 2018, Hungarian respondents performed better than Ukrainians in five of the seven questions. This is especially true for the question marked QK7b. This question examined knowledge of the area of risk and return. There is a difference of 24 percentage points in questions QK7c and QK4 – these questions concern interest rates on loans (QK4) and diversification (QK7c). However, the largest difference (69 percentage points) between the two countries can be found in the question marked with QK5&6 in the evaluationof the questionnaire, which combined simple and compound interest. Here, on the other hand, Ukrainian respondents were better. The other question in which Ukrainian respondents responded better was QK5, which also concerned the issue of interest rates. This indicates that in Hungary the field of basic knowledge is not problematic in education, but the knowledge of the concept and method of calculating compound interest is problematic. This is also well-indicated by the results of the 2018 PISA survey (OECD, 2018a). According to them, although 74 percent of Hungarian students have reached a sufficient level (Level2) in mathematics, only 8 percent are among the best (Level5) (Figure 7). By comparison, China is one of the best figures: in 2018, 44 percent of Beijing students achieved Level 5. In the also available Ukrainian data (OECD, 2018b), the same proportions are 64 percent (Level 2) and 5 percent (Level 5).

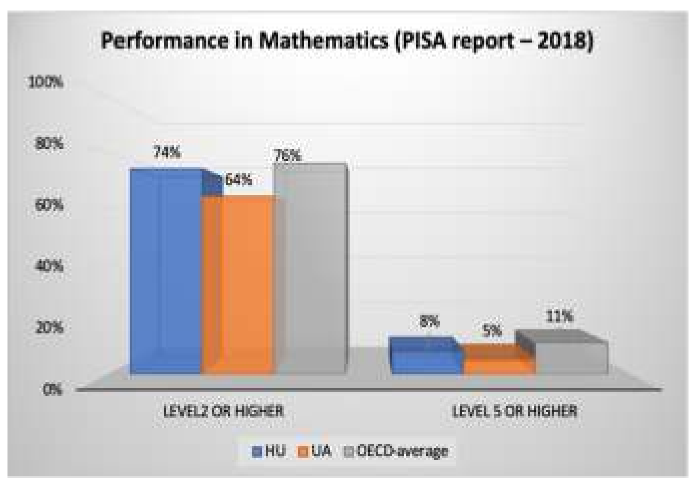

Figure 7: Performance of 15yo students in mathematics

This indicates that mathematics education in the two countries is similarly effective. The reason for the significant Hungarian backlog in the calculation of interest rates must therefore be sought elsewhere – perhaps in the differences in the focus of education. However, the verification of this assumption may be the subject of a separate research later, and in our present work we have not set the goal of proving or rejecting it.

In connection with financial knowledge, we also examined what the self-assessment of knowledge was like in 2018. The results of the two countries in this area are similar (Figure 8).

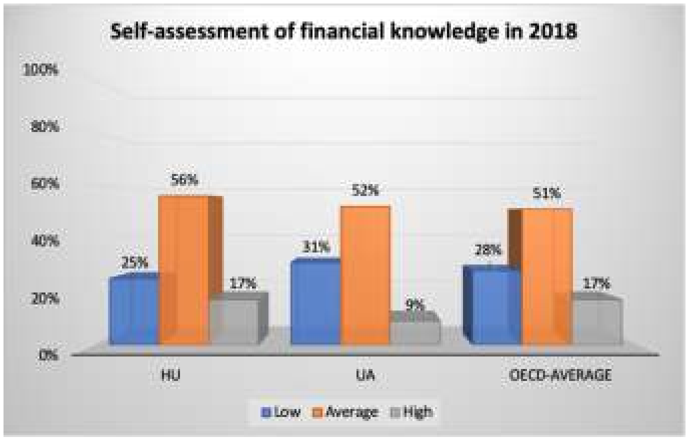

Figure 8: Self-assessment of knowledge in 2018

This means that nearly half of the respondents believe that their knowledge is in line with the expected average level. Ukrainian respondents have less self-confidence. Most of them (31 percent) think that their knowledge is below average and there are also the fewest among them (9 percent) that think their knowledge is better than average. Given the results of financial knowledge scores and PISA, self-assessment is realistic in both countries.

Financial behaviour

The concept of financial behaviour is interpreted quite broadly and in many ways. As our present analysis is based on the results of the OECD/INFE methodology, we also analyse the concept of behaviour based on this. The key elements of the concept are (Atkinson & Messy, 2012) managing and budgeting household finances, formal savings, timely bills, responsible purchases, regular monitoring of family financial situation, setting long-term financial goals and activities to achieve them.

The latest survey results are illustrated in Figure 9. The figure clearly shows that the financial behaviour of Hungarian respondents lags far behind not only the OECD average but also the Ukrainian one.

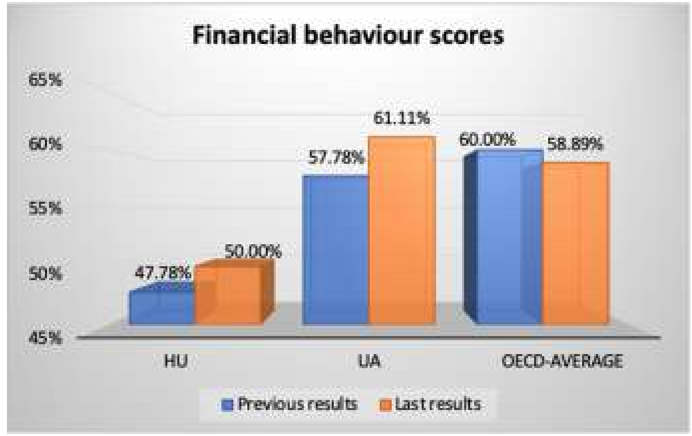

Figure 9: Change in financial behaviour scores in the last two surveys

According to the latest OECD survey results (Herman, 2020), the financial literacy of Hungarians is close to the average of OECD countries but the area of financial behaviour is significantly lagging. For example, in 2018, only one-fifth of the respondents answered that they prepared a family budget while in 2015 a quarter of the respondents and in 2010 one-third of the Hungarians prepared a budget. Compared to the US data, we get an unfavourable picture. According to TRP's 2019 financial questionnaire, more than half of US families prepares a budget in written form(using paper, Excel, or financial software), and a further forty percent compile their budgets only vaguely in their head (Giltenan et al., 2019). We note that TRP's recent research on the impact of a pandemic no longer paints such a favourable picture of the financial decisions of US parents (T. Rowe Price, 2021). Unfortunately, it is still close to the OECD average of 70%.

The three most important issues for everyday life:

- permanent monitoring of finances,
- responsible purchase and
- payment of invoices on time.

In the area of financial monitoring and careful purchasing, Ukrainian respondents are behaving even more responsibly than the OECD average. Hungarian respondents, on the other hand, are much more careful in paying their bills on time (Figure 10). Incidentally, Hungarians have shown significant progress in this area, with only 77 percent paying in time in the previous survey (2016). In the field of continuous monitoring of finances, on the other hand, the Hungarian performance fell sharply: the 47-percent value of 2018 is the result of an 8-percentage-point drop.

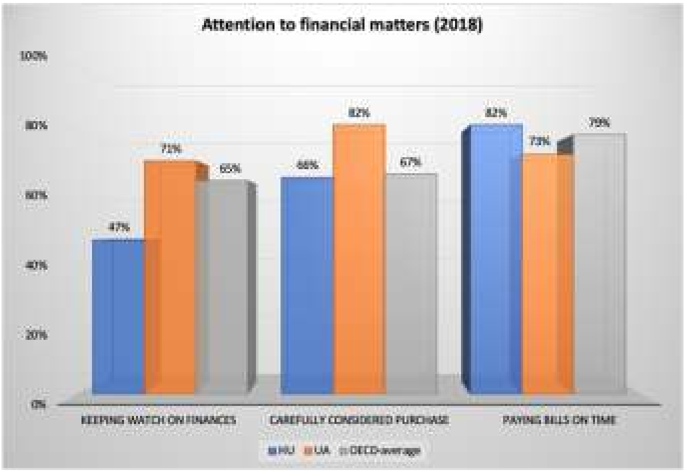

Figure 10: Responsibility in finances

In the area of financial responsibility, total performance in 2018 was as follows:

- Ukraine: 75 percentage
- Hungary: 65 percentage

Financial attitude

A financial attitude is essential to achieve the right behaviour with the right financial knowledge. The OECD's methodology for examining this differs from that used for examining financial knowledge and financial behaviour. Here, too, he uses a questionnaire method, but in the case of the statement examining the three attitudes, not 'agree' but 'disagree' is the "right" answer. These statements characterise the carpe diem (living for today) philosophy: I only live today; I like spending money; the purpose of money is to spend it. Such a relationship with finance does not allow for appropriate decisions to be made so the OECD examines the proportion of respondents who disagree with the statements.

Let us first look at how the changes have evolved based on the results of the last two surveys.

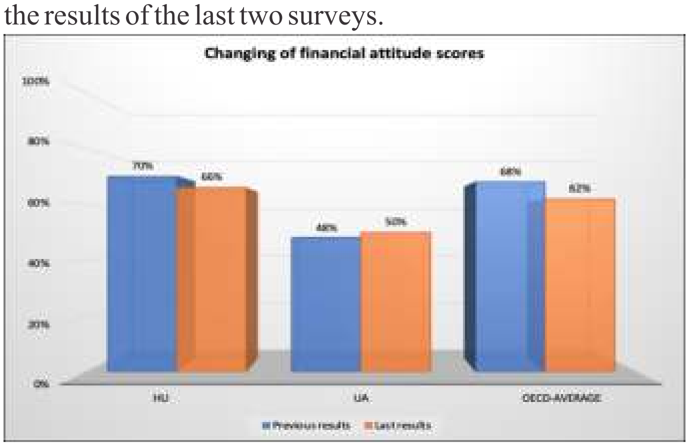

Figure 11: Changing of financial attitude

Hungary's results were very similar to those of the OECD countries, and the trend of change is similar, with a decrease of four percentage points. The trend in Ukraine is reversed. It is true that the change is only 2 percentage points, but the trend is climbing. Comparing the answers to the three questions, we can affirm that Hungarian respondents live less for the here and now and do not necessarily feel that they must spend their existing money. On the other hand, Hungarians are also the ones who prefer to shop (Figure 12).

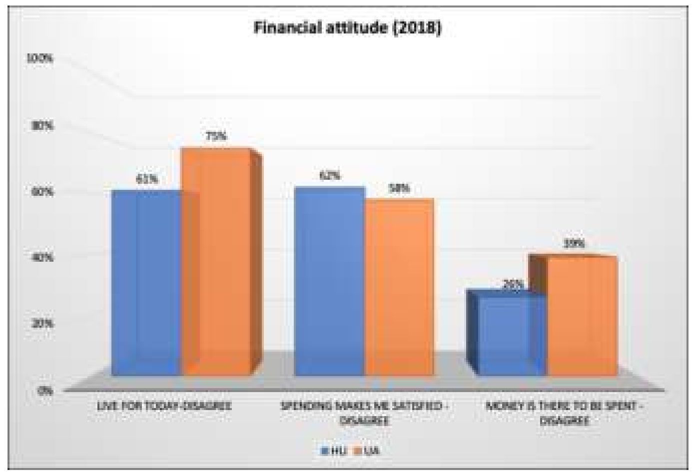

Figure 12 The financial attitude answers in 2018

The financial attitudes of the two countries also differ in that 59 percent of Hungarians and 66 percent of women show an average or higher interest in finance while 48 percent of both respondents have the same interest rate in the case of Ukrainian respondents.

Financial inclusion

Financial inclusion shows how much one is involved in finance, that is, the extent to which one knows and uses financial products and services. The OECD analyses the issue of forms of savings and insurance, financial services, money substitutes, and loans and mortgages. However, given that the most comprehensive study of financial inclusion was conducted by the World Bank and the results were reported in its triennial reports (Demirgüc-Kunt et al., 2015, 2018), we also used these data for comparison. Based on the latest available data, the following findings were made for the two countries examined.

The use of basic financial services (account, debit card, credit card) is shown in Figure 13.

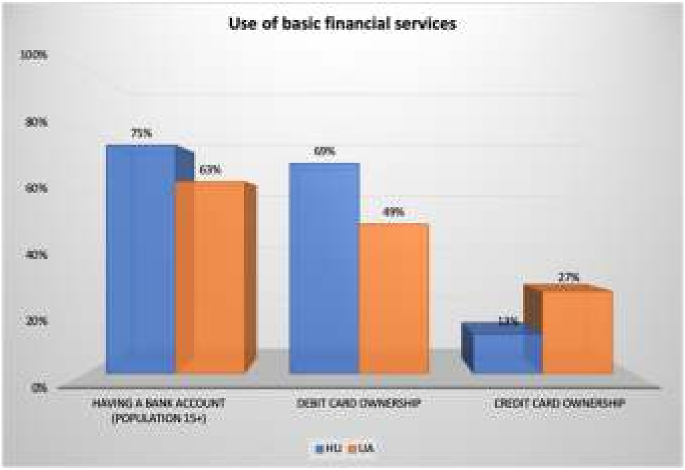

Figure 13 Basic financial services in examined countries

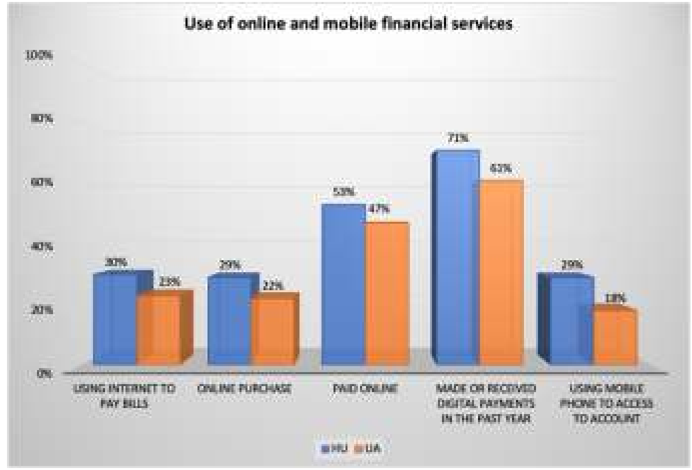

Figure 14 Use of modern financial services

In the case of both bank accounts and debit cards, the use is more frequent and higher among Hungarian respondents. The fact that in Hungary salaries and scholarships also come by bank transfer certainly plays a role in this. And virtually all members of the active working age group (18–65-year-olds) have already opened an individual or family bank account. This can also explain the debit card ownership ratio of close to 70 percent, as financial institutions usually offer a debit card with various discounts for the bank account. And this is also required by many who will not use it later. However, applying for a credit card is different from applying for a bank account and debit card. This is because a credit card allows its owners to make a purchase even if they do not have a limit. However, this can only be done if the cardholder repays the debt by the deadline set by the bank. If this does not happen, the bank will charge a significant amount of interest. This process is the main cause of credit card debt and therefore means responsible financial thinking to avoid overspending as much as possible – that is why we avoid the credit card that allows this. As shown in ,Hungarian respondents also think more responsibly in this area.

In the next step, we examined the frequency of use of modern and up-to-date financial services. These include online and mobile payment services (figure 14).

The rate of digital payments made or received is particularly high in both countries. The Hungarian percentage of 71% can again be explained primarily by the fact that almost everyone receives their salary/scholarship by transferring it to a bank account. 53% of Hungarian respondents and 47% of Ukrainian respondents pay online. The figure also shows that the frequency of purchases and payment of bills is roughly the same between online payments – roughly one in three respondents in Hungary and almost one in five in Ukraine use these services. The latest data from the World Bank is from 2017 so it may not yet include the effects of the coronavirus pandemic. However, it is now clear that COVID-19 has significantly accelerated digitisation and the development and use of online services and platforms. Therefore, the publication of the 2020–2021 data is expected with increasing interest from experts in the field. The development of online services has been facilitated not only by the pandemic but also by Industry 4.0, which is now appearing in everyday life. The connection between man and machine has now opened new perspectives that are signs of an unimaginable development for the future today. At the same time, it should not be forgotten that there is always the possibility of vulnerabilities in networks, which also highlights the issue of cyber security. It is no coincidence that more and more countries are developing their own cyber security strategies (Gyömbér, 2019).

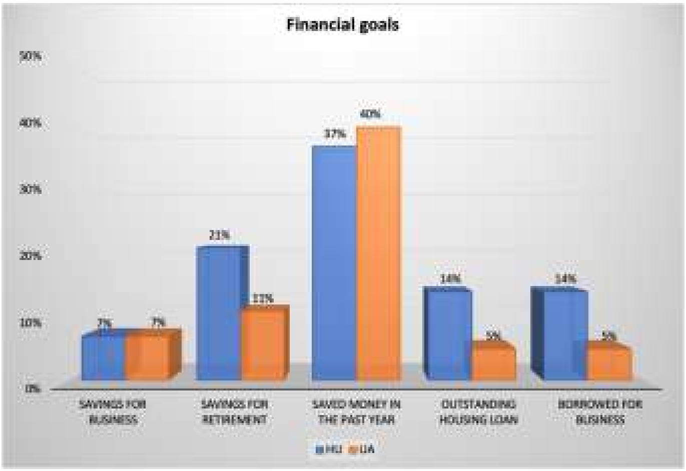

Figure 15 Main financial goals and their sources

About financial targets, the World Bank asks not only for the main financial targets but also for their sources and ability to save (Figure 15). The most important result is thatnearly 40 percent of those surveyed were able to save in the year before the survey. This rate was higher in Ukraine by 3 percentage points. The purpose of the savings is to start a business or enterprise, to start an agricultural activity. This occurred with a frequency of 7–7 percent in both countries studied. The proportion of savings for retirement purposes is also significant. One in five Hungarian respondents and one in ten Ukrainians report having retirement savings. This fact is also an indicator of long-term planning and conscious financial behaviour and decision-making –like responses to reject questions used to examine financial attitude. Of course, conscious thinking cannot just be long-term. The financial attitude questions precisely examine the awareness of short-term thinking.

The importance of business-to-enterprise agricultural production as a goal is indicated by the fact that those who have not been able to save for this purpose often choose the option of taking out a loan to get started, especially when it is possible to take out loans with favourable interest rates. According to the World Bank, in 2017, 14 percent of Hungarian respondents and 5 percent of Ukrainian respondents said they had a loan in progress and to be repaid. One explanation for this relatively low ratio may be that the 2008 credit crunch shook confidence in financial institutions. This is especially true in countries where interest rates on foreign currency loans have made many debtors insolvent, with a significant increase in exchange rates.

Another common goal is to ensure adequate living conditions, which is mainly indicated by the development of housing conditions. Interestingly, the share of housing loans in both countries is the same as the share of loans taken out by businesses. In this regard, we mention the same reservations and concerns as for loans taken out for business purposes. The results of 2017 in this field have been modified by several changes in Hungary, and the Hungarian rate is likely to be higher today as there are many tender opportunities for home purchase, renovation, and energy modernisation, in all cases with significant state support.

Conclusion

In our study, we compared the financial cultures of two Eastern European countries. The methodology developed by the OECD and accepted and used worldwide (OECD/INFE framework) was used for comparison. Data for Hungary were taken from OECD triennial reports, while data from Ukraine were used from a research report prepared by USAID and published by the NBU. In our research hypothesis, we have stated that the financial culture of the two countries studied does not differ significantly.

The financial literacy of both countries is close to, but not below, the OECD average, and the level of financial knowledge is similar. However, financial behaviour and attitude are different. In Ukraine, the financial behaviour is 60 percent, and the financial attitude is 50 percent while in Hungary, the opposite is true. Here the attitude value is around 60 percent, and the behaviour value is 50 percent. In other words, Hungarians are more attracted to finance than Ukrainians, but Ukrainians are more active than Hungarians.

In the light of the above, the OECD methodology suggests that the financial culture of the two countries is similar overall, but there are several important differences in the level of detail. Therefore, we consider our research hypothesis to be only partially validated.

We believe that the determinant of financial literacy is also the question of the extent to which the surveyed population is involved in finance. As the OECD does not specifically address this issue, we used the database of another organisation, the World Bank, to find the answer. Our most important finding in this area is that the citizens of both countries also use traditional (bank account, debit card, credit card) financial services and modern (online and mobile) methods and platforms. The financial goals are similar but we found that Hungarian respondents are a little more courageous to take out a loan to achieve their goals but at the same time responsible thinking is somewhat more characteristic of the Hungarian sample.

As a practical application of our results, we consider it important to use them primarily in financial literacy education. Here, all the experiences that a country with better performance in each area can share with another can be used in a future cooperation. Sharing information can save both parties time and money and can be a prime example of the increasingly popular blue ocean strategy approach today.

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