ECONOMY AND FINANCE • VOL. 9. ISS. 1 • MARCH 2022 • DOI: 10.33908/EF.2022.1.2

# A GLOBAL VIEW ON FINANCIAL EDUCATION

*Elemér Terták*[1]


## ABSTRACT

Financial education has increasingly gained momentum globally over the past two decades as the means of financial inclusion, i.e., to strengthen access to financial services, to increase equal opportunities, and to improve consumers' wellbeing and the stability of financial systems. Financial education was first perceived by big politics in the 1990s, while it has been receiving wide political support since the 2007-2008 global fiscal crisis. First, the study gives an overview of the history of financial education describing the main steps of its development. Then, it reviews its different forms, its effective implementation and the interactions of education and regulations. It presents the major debates related to financial education, such as the relationship of education and advisory activity, or education and regulations as well as the impact of financial education on personal autonomy.


*JEL codes:* A20, D14, D19, D83, D91, G41, G53, N20, N7

*Keywords:* financial education, financial literacy, effectiveness, and costs of financial education

## 1 INTRODUCTION

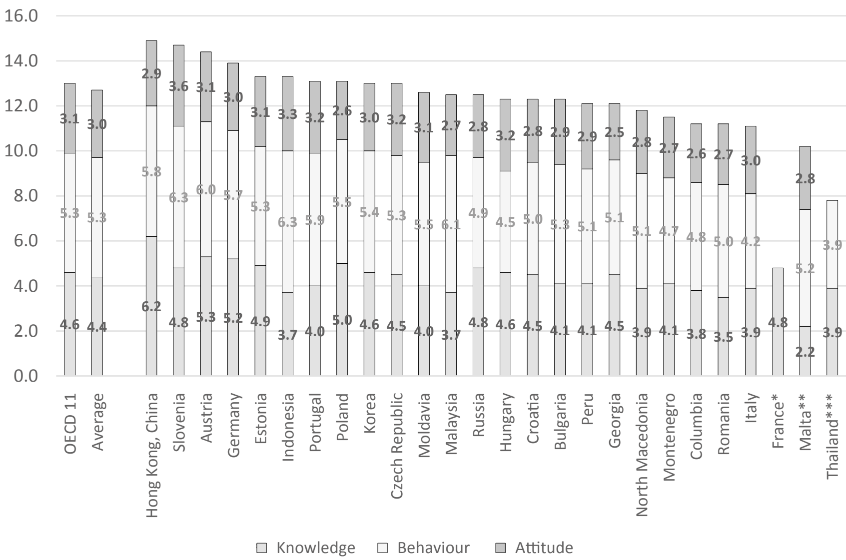
Financial education has increasingly gained momentum globally over the past two decades as the means of financial inclusion, i.e., to strengthen access to financial services, to increase equal opportunities, and to improve consumers' wellbeing and the stability of financial systems. Financial education was first perceived by big politics in the 1990s, while it has been receiving wide political support since the 2007-2008 global fiscal crisis.

Why such interest? In 2020 the Organisation of Economic Co-operation and Development (OECD) surveyed financial knowledge in twenty-six countries on three continents – Asia, Europe, and Latin America – including 12 OECD countries (OECD-INFE, 2020). Basic financial skills, behaviour and attitudes were surveyed using the uniform scoring methodology of OECD/INFE. Based on

1 *Elemér Terták*, Board Member of the Hungarian Economic Association, Chairman of the Supervisory Board of K&H Bank Zrt. E-mail: elemertertak@gmail.com.

the answers processed, the standard of financial literacy was fairly low in all 26 countries. Individuals in the total sample reached 12.7 points on average, which is slightly less than 61% of the maximum score for financial literacy. The average of the OECD countries in the survey was only a little higher at 13.0 points (62% of the maximum). Hong Kong (China) reached the highest scores – 14.8 points or 71% of the maximum, while Italy fared the worst with 11.1 points or 53% of the maximum. The rest of the countries reached 12 to 14 points. (See *Figure 1*).

**Figure 1**
**Financial literacy scores**




*Note:* The content of the survey was narrower in the countries marked with* – as indicated on the Figure.
*Source:* OECD, 2020

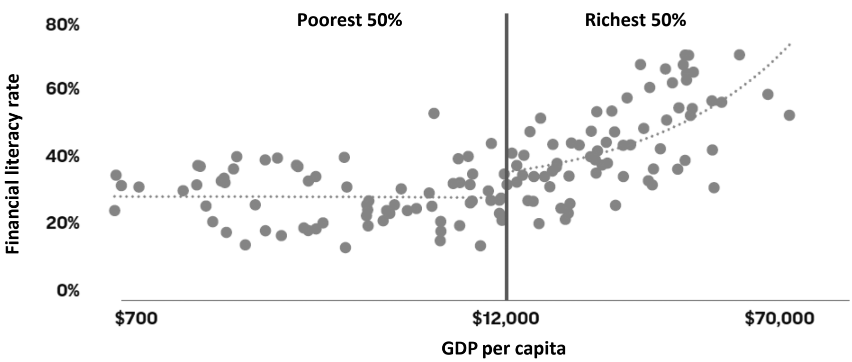
Categorising the responses by age groups, young people (aged 18-29) appear to have lower financial literacy and financial attitude scores and their financial behaviour was less prudent in all the countries. The category of the middle-aged (aged 30-59) reached much higher scores in financial culture and its components. Disregarding a few exceptions, the elderly (aged 60+) had a lower standard of financial knowledge, and their financial behaviour was also less prudent.

Respondents who used digital devices or services had consistently and significantly, higher financial literacy, knowledge, behaviour and well-being scores. This indicates that the intensive use of digital financial services suggests the presence of a higher standard of financial knowledge and a more prudent pattern of financial behaviour, which is implicit proof of the importance of financial education.

Finally, the survey showed that individuals with savings equal to at least three months of income reached, without exception, significantly higher scores in all areas than those who did not have such savings. This observation supports the importance of financial awareness financial education has a key part in development.

One remarkable lesson of the survey is that the standard of financial literacy is, above a threshold value, interrelated to the level of economic development. On the other hand, the standard of financial literacy proved to be lower than desirable in all countries without exception, so there is (would be) room for financial education everywhere (see *Figure 2*).

**Figure 2**
**GDP Per Capita and Financial Literacy**
**High economic development tied to high financial literacy**




*Source:* S&P Global FinLit Survey and Global Findex database

Notwithstanding the above, the social usefulness of financial education is a controversial issue. An article in *The Economist* (*The Economist*, 2008b) drew attention that there are views according to which the promotion of financial literacy does more harm than good. Representatives of such views, argue that there is no empirical proof to support that intensive financial education could prevent any poor financial decisions, financial panic, or that it could protect people from financial fraud. They advise, based on cost-benefit analysis, that stricter financial regulations and measures of consumer protection or free personal financial advisory services in some cases would provide more social benefits than mandatory teaching of financial knowledge or efforts in adult education.

Objective analysts in the subject generally acknowledge that research to date has indeed not demonstrated a strong causal link between financial education and higher financial literacy, as well as more appropriate financial behaviour and more favourable financial situation of households. However, in their opinion, this does not justify the redundancy of financial education, as the reason for the moderate effectiveness rather is that not only the knowledge acquired in the framework of education plays a role in making financial decisions, but also several individual factors, e.g. psychological cause, emotional motive, or impressions, as well as other factors that are difficult to quantify, such as social customs, norms and traditions. These factors are dealt with in a relatively young field of study, behavioural finance.

Despite the doubts, there is an intensive drive all over the world to expand financial education and to make it more effective. At present many governments and social organisations are engaged in developing financial education, as you can see on the OECD International Network for Financial Education (INFE) website.[2] A large group of experts have come to be convinced that most people will make better financial decisions, focus more on self-care and accumulate higher safety reserves in a crisis whether or not they have received proper financial education. In addition, the advocates of financial education underline previous studies on effectiveness have mostly focused on cost-benefit analyses but have failed to consider the findings of behavioural finance or to include the impact mechanism of social media knowingly influencing their followers, which act side by side with financial education. The latter is particularly interesting. According to the latest studies on the effectiveness of financial education, financial training by popular influencers on social media targeting certain groups has resulted in measurable improvement in the financial position of participating households. In addition, it has helped the transition to digital banking spreading fast since 2010 as it gained importance due to the corona virus outbreak in 2020.

Next, the paper provides an overview of the history of financial education, then it goes into detail to discuss certain issues of the effectiveness of financial education and its different international aspects. This thematic issue of *Economy and Finance* carries three more papers on the position of financial education in the European Union,[3] which together with this study, supplement each other to provide an insight into the topical tasks of this important issue and advise further to-dos.

2 https://www.oecd.org/financial/education/. The Hungarian government strategy {12} was elaborated in 2017 (NGM, 2017).

3 See articles in this special issue Kovács–Nagy (2022), Kovács–Pásztor (2022), Németh (2022).

## 2 THE HISTORY OF FINANCIAL EDUCATION

A review of the development of financial culture shows no changes had occurred in teaching financial knowledge from the Middle Ages to early in the 19th century.

Although different societies had known and used money even before AD, the history of teaching financial skills and financial inclusion is only slightly longer than two hundred years. That, naturally, does not mean people had had no knowledge about money earlier, but their knowledge had been limited to money as a means of trade; since most people had been using coins mostly for that purpose in everyday life.

By the beginning of the fifth century, the economy of Western Europe had slowed down in terms of economy and money characterised by limited volumes of barter and little money circulation. Although people did use coins in that period too, practically no money was circulated. Settlements among people usually took the form of payment in kind, even if coins were handed over as part of the settlement. The thinkers of the Middle Ages including Saint Thomas Aquinas had reservations about the process of products turning into traded goods. They were in particular opposed to the sale and purchase of money as a commodity, while the lending of money for usury (interest) was outright a crime.[4] Because of the subordinated role of money during feudalism, no area of economic life required mathematical skills since the primitive industry or trade associated with the primitive agriculture of the period could often do even without the four basic operations. In this era, some computational knowledge was needed only to perform the simplest basic measurement and calculation tasks; scales and spreadsheets were used as aids.[5]

The transition from a feudal farming society to industrial capitalism was characterised by migration from the countryside and the dissolution of large families of three to five generations living together and working in family cooperation. The industrial revolution, the fast growth of the number of city dwellers, the appearance of wageworkers and pauperisation, etc., had triggered changes in the use of money that required more than simple basic skills. For instance, the barter of goods and services was replaced by a settlement in money. Settling expenses because of daily needs got separated from weekly or monthly wages payments, so short-term loans appeared. Because of such changes, money started to have its

4 See for example Kovács Levente (2018): Gazdaságetika és jövőkép [Economic ethics and vision]. *Credo*, 24(1–2), 9–99.

5 Sain Márton (1986): Nincs királyi út! Matematikatörténet [There is no royal road! History of mathematics]. Budapest, Gondolat, 433–467.

own life as a means of payment. Time was also a crucial factor, so interest calculations became necessary. In addition, as the traditional multi-generation family structure dissolved, self-care had to be arranged both for illness and old age.

Philanthropes were the first to suggest that poor city dwellers, whose number was growing fast, should be educated to save, and encouraged for self-care so that their material position could improve, and they should accumulate some safety reserves for unexpected events. Such ideas of social policy gave birth to savings banks. The first saving banks were established at the end of the 18th century in Germany (Hamburg, 1778), Switzerland (Bern, 1787) and England by philanthropes and charity associations engaged in philanthropy.[6] They were followed by saving banks set up by cities and towns. These were complemented slightly later by savings cooperates in the villages and cities, and soon they did not only collect deposits among their clients and members but also granted loans occasionally. In addition, they also considered educating workers to be thrifty as their important mission. By the end of the 19th century, even school children had been encouraged to save even tiny amounts regularly, educating them in this way that thriftiness is a virtue.

The economic weight and importance of the population saving and prudently managing money continually increased in the 19th century, so more organisations and institutions embraced the issue of educating people to save. World War I and the economic crisis in the post-war years, however, led to major breaks in that development. Hyper-inflation mainly in the defeated countries devalued earlier savings and reduced people's ability to save too. However, recovery starting in the mid-1920s allowed individual savings again. To promote it, the First International Thrift Congress suggested in 1924 that World Thrift Day should be held each year in the last week of October. At the beginning, the event served to popularise the idea of savings. World Thrift Day has lost its significance by now in some of the initiating countries, but it continues to play a part in most emerging countries in strengthening self-care and reflecting the importance of financial education.

After World War II, in addition to the growing importance of self-care, the issue of financial literacy gained more attention, because global financial markets and the products traded there have become increasingly sophisticated. A technical revolution took place in the field of financial services leading to the need of broadening financial inclusion. At that time satisfying housing needs and supplying households with durable consumer goods increasingly depended on households'

6 Heller Farkas (1947): Közgazdaságtan [Economics], Volume 2, p. 61. The first savings bank named Erste Österreichische Spar-Casse was established in the form of an association in Austria in 1819. Initiated by *András Fáy*, the first Hungarian savings bank named Pesti Hazai Első Takarékpénztár was established in 1839 in the form of an association.

borrowing. Because of this, more and more government agencies had recognised by the '90s that youth needed to receive serious financial education so that they could make prudent decisions as adults on issues such as obtaining their own flats or selecting a pension scheme. At the same time, most students completed their education with almost no insight into finances or the operation of a financial system. Whether they continued their studies or took a job, they had to make important financial decisions that would define their financial circumstances eventually.

Having recognised this paradox, over 150 corporate, academic, public and government organisations in the United States established the Jump$tart Coalition in 1997. Members made a joint motion to have the importance of financial education recognised and introduced. They also decided to develop the necessary curricula and to provide sources for operation.[7] Ever since its establishment, Jump$tart has been commissioning surveys regarding the literacy level of high school senior students. According to the first comprehensive survey made in 2005, the average score of respondents was only 52% on the US grading scale. A mere 16% of the students took part in at least one full course on personal finances.

In October 2002 the US Treasury published a White Paper on incorporating financial education into school curricula.[8] In it, it emphasised the importance of building financial knowledge into the curricula of maths and reading/civics. The Fair and Accurate Credit Transactions Act (FACTA) adopted in December 2003 also played an important part. Although its primary goal was the protection of consumers in credit information systems, chapter five of the Act, "Financial Literacy and Education Improvement" included important provisions on improving financial literacy and education.[9] By the Act, the Secretary of the Treasury has been appointed to chair the Financial Literacy and Education Commission. It also tasked the Treasury to promote financial literacy in a joint effort with nineteen federal departments and supervisory authorities built on the cooperation of the government and private sectors.

7 https://www.jumpstart.org/who-we-are/about/history/

8 United States Department of the Treasury (2002): Integrating Financial Education into School Curricula: Giving America's Youth the Educational Foundation for Making Effective Financial Decisions throughout Their Lives by Teaching Financial Concepts as Part of Math and Reading Curricula in Elementary, Middle, and High Schools. A White Paper, Office of Financial Education, Washington, DC., October 2002.

9 https://www.govinfo.gov/content/pkg/PLAW-108publ159/html/PLAW-108publ159.htm.

Next, President *George W. Bush* established the President's Advisory Council on Financial Literacy on 22 January 2008.[10] The Council advised the president on how financial knowledge and skills of youth at school and of adults at workplace or residence can be improved and how consumer protection can be strengthened. Members of the Council included representatives of universities, foundations and corporates that are engaged in some form of regular financial education. In 2013 President *Barack Obama* modified the tasks and composition of the advisory council focusing on the issues of youth education. After submitting their recommendations, the mandate of the Advisory Council ended in June 2015.

As it can be seen from the summary above, the issues of financial education have been given attention for quite a long time in the United States. This is explained by the emergence of a capital market-dominated financial system in the United States (and several other English-speaking countries), where the prevailing model for regulating lending, insurance and investment products is based on strict public information obligations for service providers and free choice for consumers. This regulatory model is based on the assumption of "homo economicus"[11], according to which a person has a rational, clear system of preferences, based on which he can sort out his choices, from which he chooses what is "most advantageous", i.e., brings the greatest benefit, through profit maximisation. However, as different financial products have become highly sophisticated, it has also become clear that common consumers are unable to understand them in all detail, which may lead to grave social and economic consequences in time. Because of this, political decision-makers declared the education of financial skills to be a key component in the regulatory model based on issuers' disclosure obligation. According to the intentions of political decision makers, education will make consumers 'responsible' and 'decisive' actors on the market, who are not only motivated but are also able to make responsible financial decisions affecting their wellbeing. The objective is to educate consumers so that they could manage their loans, insurance and pension planning affairs having the confidence to find their way among the rich variety of offers by competing service providers.

It is an attractive vision, as competition on the side of suppliers and free choice on the side of demand is – in theory – a promise of consumer wellbeing. However, real life has confirmed the belief in the usefulness of financial education has limitations. It is partly because fast changes occur on the finance market,

10 White House (2008): President Bush Announces President's Advisory Council on Financial Literacy, January 22, https://georgewbush-whitehouse.archives.gov/news/releases/2008/01/images/20080122-7_p012208sc-0321-515h.html.

11 Cf. James Chen (2021): What Is Homo Economicus?, Investopedia, https://www.investopedia.com/terms/h/homoeconomicus.asp

which continuously widens the gap between consumers' knowledge and the skills needed to grasp complex, non-standardised financial products. The gap is further increased by service providers' ability to influence consumers; the asymmetry of information and knowledge between the teachers of financial skills and the experts of service providers and finally the cognitive dissonance experienced during financial decision making.

In addition to emphasising the importance of financial skills, response measures to the 2008 global financial crisis expanded the scope of regulations in the financial sector and increased its dimension and detailed content. Although there is general consent regarding the necessity of regulation, there are major differences in opinion whether the increase of the complexity of regulatory activity over the past years has been really necessary. As banking and capital market regulations become more complex, their transparency suffers, the danger of regulatory arbitrage increases, while it burdens regulatory resources and financial institutions alike, which results in the noticeable increase of operational expenses. Further, extremely complex regulations contribute, paradoxically, to the increase of systemic risk. Firstly, the dense web of regulations gives the illusion of a highly controlled overall system, while its Byzantine nature facilitates and makes regulatory bodies' thwarting them pay off. Secondly, because "over-sophisticated" regulatory systems are in most cases incapable of managing the "unknown unknown".[12] And thirdly, because in case risks occur, the wide range and combinations of regulatory tools may result in complex measures difficult to understand, which will hamper the accountability of regulators and supervisory bodies. Finally, the complexity of regulations may trigger the transfer of risks to entities outside the scope of regulators, such as the national budget, while it will at the same time "relieve" consumers from knowing and comprehending the rules or take responsibility for their bad personal decisions.[13]

As it can be seen later in the paper, a major dilemma has appeared in the United States (and other English-speaking countries), i.e., how the security of the financial system and consumers' responsibility can be balanced in a socially effective way. Who should accept responsibility and to what extent for system security and consumer decisions? Do people want to live in a society where average consumers must find their way in the continually changing world of financial products

12 The term "the unknown unknown" is a famous quote from an address given by former US Secretary of Defense *Donald H. Rumsfeld* (1932–2021): "As we know there are known knowns. There are things we know we know. We also know there are known unknowns. That is to say, we know there are some things we do not know. But there are also unknown unknowns – the ones we don't know we don't know." February 12, 2002, https://en.wikipedia.org/wiki/There_are_known_knowns.

13 See for example Gai et al., 2019.

armed only with their knowledge gained through education? Is financial education able to dispose of the non-rational factors of financial decision making? And whether consumers want to live in a society where law and authorised institutions "collectivise" the detrimental consequences of their decisions based on decisions they have no say in. Will it eventually not mean a grave intrusion into people's private life and the reduction of personal autonomy? So many questions you cannot offer easy answers to.

In other countries of the world, where the financial system is banking-based, the protection of people as consumers – unlike in English-speaking countries – is implemented through regulations, while their pensions are secured mainly by government entities. Thus, the part played by financial education does not seem to be as important as in the United States. On the other hand, the individual right to and responsibility for decision making cannot be restricted in those countries either. So, despite legal, institutional, and cultural differences, teaching financial skills has become increasingly important and urgent also there. It is all the truer as surveys made on the standard of people's financial skills in those countries have produced similar findings as in the United States. The survey referred to in the first footnote is proof for this.

Considering the deficiencies of financial knowledge and the similarity of the tasks aimed to eliminate them, the **Organisation for Economic Co-operation and Development (OECD)** launched a comprehensive international project never seen before to promote the education of financial knowledge. Under it, the OECD recommended that the Member States should start teaching financial skills at schools as early as possible. Children can acquire the knowledge and skills necessary for responsible financial behaviour from an early age if those are integrated into the curriculum. It is important for two reasons: on the one hand, many parents all over the world are not properly prepared to instruct their children about the smart use of money, as their standard of financial knowledge is quite low as well. On the other hand, children do meet issues of money management beginning from their school years, since they receive pocket money, sometimes even a co-card from their parents regularly, while most young people at high school have money from their earnings.

In March 2008, the OECD established its **International Network on Financial Education (INFE)** to support the Member States and other countries joining the network in developing and implementing national strategies of financial education programmes as well as in creating innovative methodologies to improve the financial literacy of the population.[14]

INFE currently has 270 public institutions among its members from the 34 OECD Member States and 96 other countries. An advisory body oversees the work of the network. Working groups within the network are currently addressing four key policy areas related to financial education:

1. Standard setting, implementation and evaluation
2. Financial education and the impact of digitisation
3. Financial education in the workplace
4. The impact of ageing populations and the needs of older consumers.

The OECD/INFE also continues to develop and promote outputs from previous working groups, including core competencies for financial literacy; financial education for micro, small and medium-sized enterprises; financial education for financial inclusion; national strategies for financial education; financial education for youth and in school and for women; financial education for long-term savings and investments; and financial literacy measurement.

The **European Commission** published a White Paper on Financial Services Policy (2005-2010) at the end of 2005. Among others, it laid down that the transparency and comparability of financial products must be enhanced, and consumers must be assisted to have a better understanding of such products. The standard of financial skills is important for the EU for three reasons:

1) Because the population is ageing fast, the burden on traditional pension schemes can only be eased if self-care gains momentum, which can only be reached if financial knowledge is higher.
2) Mortgage loans make up most of the total loan portfolio of households in the Eurozone. Understanding the consequences of indebtedness is particularly important for young households, first homeowners and low-income groups, which requires proper financial skills.
3) The lack of financial literacy has proved to hinder the fight against poverty, inequality, social exclusion, and upward mobility.

The policy recommendations and programmes of the European Commission promote the improvement of financial culture beginning from school-age via programmes matching the specific needs of youth, women, and low-income social groups. Further, they intend to provide specialised financial education to people

14 https://www.oecd.org/financial/education/oecd-international-network-on-financial-education.htm.

facing high impact financial decisions, such as a first home loan or a student loan, or the selection of a retirement savings scheme.

In a joint effort with the OECD, the Commission launched its online adult education programme DOLCETA („**D**eveloping **O**n-**L**ine **C**onsumer **E**ducation and **T**raining for **A**dults") in December 2003. Under the programme, experts from the Member States have developed eight modules covering areas such as financial knowledge, consumer rights, sustainable consumption, and product safety. The main objective of the project was to call the attention of European citizens to their rights and how to exercise them. The project did not only target the public at large but also teachers and NGOs providing financial education by offering information and teaching materials. Over the years, the website has grown into a several thousand-page-long encyclopaedias with well-known experts of the topic among its authors. Considering the prohibitive costs of upgrading and maintaining the project, the Commission decided in 2013 to end DOLCETA and to replace it with "ConsumerClassroom.eu". The new project focuses to improve the professional skills of high school teachers engaged in financial education for the 12-18 age group and promotes the exchange of teaching materials rather than providing consumers with direct information.

In September 2020, the Commission (more exactly, the Directorate~~s~~-General for Financial Stability, Financial Services and Capital Markets Union) marked the improvement of financial literacy as a key task in the action plan of the EU Capital Markets Union (CMU).[15] The Commission is to prepare and develop the relevant project jointly with INFE. The new framework for reference is based on the framework of INFE basic competencies on youth financial knowledge and the G20/OECD adult financial literacy and covers all issues related to sustainable finance. The new EU Framework of Reference aims to create a common terminology and framework for the EU to develop policies and programmes related to financial knowledge, to identify the shortcomings of supply and to apply uniform assessment, measuring and evaluation methodology.

To complement and promote the European Commission's efforts for improving financial literacy, a group of nine European interest representations and educational organisations established the **European Platform for Financial Education** in February 2017 as an associate member of FINE. The objective of the initiative is to drive the demand for financial education in Europe particularly among youth and entrepreneurs. The founding partners of the Platform include Better Finance representing investors and savers, CFA Institute training investment specialists,

15 https://ec.europa.eu/info/business-economy-euro/banking-and-finance/consumer-finance-and-payments/financial-literacy_hu.

the association EUROCHAMBRES of European Chambers of Commerce and Industry, the European Banking Federation (EBF) representing private banks, the European Banking Training Network (EBTN), the European Fund and Asset Management Association (EFAMA), the European Microfinancing Network (EMN), Insurance Europe of private insurance companies and JA Europe, provider of education programmes for entrepreneurs. The founders agreed to join forces to promote the improvement of financial literacy in Europe. The platform is a venue for exchanging ideas, information and experience and arranges conferences on how the European Union can play a leading part in the improvement of financial culture. The platform will support its members in coordinating their participation in European initiatives to make use of potential synergies and to avoid duplication.

The **United Nations Organisation** also recognised financial education and financial inclusion as important tasks in 2009. Her Majesty Queen *Máxima* has served as the United Nations Secretary-General' Special Advocate for Inclusive Finance for Development (UNSGSA) since 2009. In this capacity, she advises the Secretary-General and is a leading global voice on advancing universal access to affordable, effective, and safe financial services including low-income groups and the SME sector.[16] According to the World Bank database Findex,[17]in 2017 about 1.7 billion adults, i.e., half of the total adult global population had no access to financial services by regulated financial institutions such as bank accounts, insurance, or loans. While 94 per cent of adults hold accounts with some financial institution in developed economies, only 54 per cent of adults hold accounts in developing countries. According to the UNSGSA, access to financial services and obtaining the knowledge necessary for their use is vital to create sustainable economic growth, to create jobs and to promote people's personal and social development.

At their Pittsburgh meeting in September 2009, the Heads of State and Government of **G20 countries** decided to establish the G-20 financial inclusion expert group in collaboration with the Consultative Group to Assist the Poor (CGAP)[18], the International Finance Company (IFC) and other international organisations. Promoting the spread of financial literacy is one of the key tasks of the group. At their Seoul Summit in 2010, they marked financial integration as a key pillar of the global development agenda and endorsed the Financial Inclusion Action (FIAP) of G-20. A few months later the **Global Partnership for Financial**

16 https://www.unsgsa.org/

17 https://globalfindex.worldbank.org/

18 CGAP is a global partnership of more than 30 of the world's leading development banks, agencies and foundations based in Washington.

**Inclusion (GPFI)** started operation for the global promotion of financial integration. The GPFI is an inclusive platform for G20 member states, non-G20 countries and other stakeholders to implement the agenda of financial inclusion. The activities of GPFI are divided by priorities, action fields and performances; the organisation relies on support from its implementing partners to reach its goals. Its main action fields include helping draft the provisions promoting financial inclusion for individuals as well as micro-, small, and medium-sized enterprises, and monitoring the results achieved in the reduction of international transfer costs to the level internationally targeted. In addition, GPFI is a promoter for the development of financial education policies, it recommends measures and principles for spreading financial skills related to financial services particularly digital services and to strengthen the protection of consumers of such services. Her Majesty Queen Máxima of the Netherlands as the United Nations Secretary-General' Special Advocate for Inclusive Finance has been the honorary patron of GPFI since June 2011. Two co-chairpersons appointed by the G-20 member states are responsible for leading and coordinating the work programme and activities of GPFI, who collaborate with the board of G20, the GPFI 'troika" (previous, current, and future co-chairpersons) and all GPFI members.[19]

The restrictions due to the coronavirus pandemic in early 2020 and the accelerated progress of digitisation of the financial markets since the pandemic pose new challenges in financial education. Several governments have transferred the messages and programmes of financial education to online channels or other digital devices. Because of the restrictions due to the pandemic, digital transmission has been the only way for national authorities to forward messages of financial information and education to their citizens, particularly to people facing financial difficulties. A survey made by OECD/INFE in September 2020 has proved most countries and authorities have been making successful efforts to transfer financial education to the internet at the time of the coronavirus pandemic, which channel may continue to be used after the end of the pandemic.

As much as it was welcome that cash-free payments, which proliferated because of the boom of e-commerce, could be undisturbed despite the inevitable restrictions due to the Corona Virus pandemic, it was noticed with regret that the numbers of financial fraud attempted and conducted on the Internet also surged. The challenge was to make consumers including the most vulnerable ones understand the risks of using digital financial services side by side with their advantages, and to teach them to manage online transactions safely by recognising the signs of fi-

19 https://www.bancaditalia.it/focus/g20-2021/temi-gruppi/gpfi/index.html?com.dotmarketing.htmlpage.language=1.

nancial fraud and abuse. For instance, European countries made use of the entire range of communication channels (websites, social media, web and TV information campaigns, online financial literacy days/weeks, etc) to speak about topical financial issues consumers could face in their everyday life, to call their attention to legal changes directly affecting household finances and to protection from cybercrime. Such initiatives mostly targeted people who were not regular actors on money markets or were too young to have experience or the elderly who had recently switched to the use of digital devices due to the pandemic. In addition to providing information, the channels also served consumer protection by offering easy-to-understand comparisons of available financial products.

During the epidemic, trading in cryptocurrencies also received a lot of attention in financial education and consumer protection. When the price of Bitcoin rose to a historic high of more than $ 60,000 shortly after the outbreak of the coronavirus in April 2021, many began to take a keen interest in investing in this cryptocurrency, perhaps thinking that if they did not enter now, there would be a great opportunity they may miss. By November 2021, more than 79 million people had created custom Bitcoin wallets on Blockchain.com, allowing them to purchase Bitcoin. This is about 31% more than a year earlier.[20] Interest has been heightened by the fact that analysts have predicted that cryptocurrencies will become a permanent feature of the digital financial environment, while many online brokers and exchange platforms have tried to advertise and promote clients. to win to invest in cryptocurrencies. But no matter how witty the innovation behind Bitcoin, the blockchain is, no matter how much cryptocurrency is attractive, and no matter how much promoters and investors have spent promoting cryptocurrency trading, cryptocurrencies and instability remain inseparable.[21] Analysts' views are divided: there are those who envision a complete collapse of the Bitcoin market, but some envision an exchange rate above $ 100,000. In the midst of such a

20 Josh Howarth (2022): How Many People Own Bitcoin? 95 Blockchain Statistics, https://explodingtopics.com/blog/blockchain-stats.

21 Because there is no economic background behind bitcoin in the classical sense, money does not have many important functions. The value of bitcoin always depends on the value that crypto money believers attach to it, i.e. the whole is based on completely subjective judgments. However, according to a study, there are 5 million of the 19 million coins already in circulation on 10,000 Bitcoin accounts, meaning that the market for this cryptocurrency is highly concentrated, and therefore the direction of exchange rate movements is determined by the mood of a fraction of the owners. As a result, a common feature of bitcoin exchange rate fluctuations is that they show extreme stock market fluctuations: the value of a bitcoin can rise or fall tremendously in weeks, months, or even days. The roller coaster of the Bitcoin exchange rate raced steeply up again from a low of $ 30,000 in the summer after the spring peak in 2021, reaching a record high of over $ 67,000 in early November. This was followed by the fall of January 2022, which was largely triggered by the political unrest in Kazakhstan and the accompanying internet shutdown.

contradictory outlook, the average retail investor should not be advised to invest other than with due diligence, that is, to invest no more than the loss that they can still tolerate.

As can be seen from the historical review, the government-level engagement in financial education looks back on a short history of just over three decades. The number of governmental and inter-governmental international efforts to promote financial education have increased following the 2008 global fiscal crisis. At present, almost all international organisations dealing with issues of the economy as well different countries regard the promotion of financial inclusion and financial education as their task in some form. *Viewed from a historical perspective, government-level efforts are still in an initial stage. That and the little practical experience are the reasons why the opinions on the effectiveness and usefulness of financial education often contradict each other. No consensus has been reached yet by opposite views.*

## 3 EXPENSES OF EFFECTIVE FINANCIAL EDUCATION

The effectiveness of an educational system is usually measured by comparing the material and human resources used and their rate of utilisation. It is the same for financial education. Although knowledge transfer is usually made by supplementing existing curricula and teaching materials using the available teaching staff and educational infrastructure, additional resources are needed (e.g., extension teacher training, additional teaching material and teaching aids, etc). The extent of expenditure and their international comparison is no problem since there is a uniform approach on accounting at par value and the content of the categories used. On the other hand, there is no tried and proven methodology to measure how effective financial education is. [22] It is easy to realise even for people who are not experts in educational economics that it is difficult to identify what you can deem the "benefit" of financial education and how you can measure it or express it in terms of money.

According to international experience, the effectiveness of education is based on measuring students' performance. The changes occurring during the study period are to be found, i.e., the initial level of knowledge is surveyed and then compared to the same at the end of the same period. Follow-up tests of previous educational programmes have shown that a term in high school education or training courses

22 See for example Balázs Éva (1996): Az oktatás hatékonysága [Efficiency of education]. *Iskolakultúra*, 6(6-7), 3–10. http://www.iskolakultura.hu/index.php/iskolakultura/article/view/31339/31056.

of a few months used in adult education have not resulted in appreciable, lasting increase in knowledge. More time is needed to acquire the necessary knowledge and "digest" it in practice. (Students achieved better results at international competitions, but their success was based on longer and methodological preparation.) On the other hand, as already mentioned, a part of the knowledge transferred gets inevitably obsolete in time, its value is lost.

One should also keep in mind what the latest studies have shown, i.e., students' performance is strongly affected by what is happening in the classroom and the culture of school leadership in addition to individual talent and the impact of family and friends. There are major differences among schools in that regard partly because of the talent and knowledge of the teachers and guest speakers who address the audience and partly because of the commitment of school leadership to teaching financial skills.

Effective financial education can be quite costly.

1) One of the potential reasons is that the "initial" knowledge level of the audience (students or adults) can be quite diverse. If the initial knowledge level is low, effective financial education must be longer in time and wider in content. Sometimes participants must be taught a wide range of skills beginning from basic financial maths exercises to the evaluation of the reliability of various sources of information.
2) On the other hand, the expenditure of effective financial education is increased by the complexity of financial decisions, and the diversity of consumers' financial situation and personal preferences. A simple rule of thumb, such as the one stipulated in the debt-brake order, i.e., if monthly income is lower than HUF 500,000, acceptable monthly instalment cannot go beyond 50% of net income can only be applied with reservations to floating interest rates if they change often and/or significantly, as it could be seen in the recent order on interest rate stop for housing loans. What is more, because of different preferential loan terms, tax reliefs and subsidies it can easily happen that something is an optimal combination for one consumer while it is unavailable or is not the best choice for another one. Besides, if somebody has taken out several loans and their financial situation gets worse, you need to conduct a detailed analysis to decide the most reasonable restructuring or rescheduling of their debt. Such a complicated course requiring multiple knowledge can hardly be organised effectively, and it is also unnecessary for people who are not in a tight squeeze. In such cases "tailored" advisory services are more effective than training.
3) The third difficulty of the effectiveness of financial education is the speed at which product ranges and industrial habits change. The appearance of new fi-

nancial instruments, changes in fashion or external forces – such as the coronavirus – can change consumer needs and preferences. But making a major long-term personal financial decision, such as taking out a house loan, selecting a pension supplementary scheme or opening a start-up account for your child are one-time actions you can optimise for the date of the commitment only. Concluded transactions are long-term obligations for consumers even if some terms and conditions might be changed later. Most consumers living their daily lives cannot monitor regularly occurring changes, which also make their knowledge obtained through financial education at school obsolete. A few decades ago, the rule of thumb was to put aside one-tenth of your annual income for your pensioner years so as not to have to give up much of your usual living standards. However, as the increase of life expectancy and predictions on the trends in medical and care costs for the elderly indicate, 10% savings will not be sufficient in future. So, depending on your preferences, you will have to reconsider from time to time how much you want to save for your old days. The effectiveness of financial education would require regular updates of content, which is difficult to organise and involves major costs, particularly because school education is not possible for adults.

4) Fourth: lack of interest to learn new skills or reluctance to participate in further financial training are further obstacles difficult and expensive to overcome. Although financial education for volunteer participants is available today everywhere and is often free of charge, thanks to digital technologies, most people use it rarely or not at all. According to a survey, when credit card issuers warned thousands of cardholders they were at risk of fraud and abuse and offered them a free online training course to prevent it, only 0.4% of the clients contacted logged onto the relevant website and only one-tenth of those completed the course. It is highly ironic though that the majority of those completing the course already had higher financial knowledge, better budgeting, and planning skills than the ones for whom participation would have been more useful but who failed to use the opportunity offered. In this and similar cases the effectiveness of education could have been ensured by making participation mandatory, which is practically impossible,
5) Fifth: financial service providers have significant sources to influence their clients via intensive marketing and PR activity. If supervisory authorities or consumer protection agencies launch information campaigns to warn customers about certain misleading business terms and practices, almost all service providers affected quickly change their marketing emphasising their reliability and honest business practices. Considering the high impact of marketing and PR tools, financial education would be effective if it happened at the place and

time of decision making. It is, however, difficult to arrange, it would involve prohibitive costs that could hardly be financed from public funds.

6) Sixth: another major challenge concerning the effectiveness of financial education is that even financially well-informed degree holders make wrong financial decisions surprisingly often. Logical decision making can be affected by different prejudices, sudden ideas, or impulsively, which is[23] well documented by the observations of behavioural economics in the field of personal finances. Human decision making is also characterised by cognitive distortion, i.e., errors in reasoning leading to decisions that defy logics or contradict the accepted rules of behaviour. A frequent reason for it, in the field of finances, is the riches of the range of products, the large quantity of information necessary to fully assess decision making options, because they lead some consumers to apply an over-simplified decision-making strategy while others may become chronically indecisive. In addition, the high stake of some decisions triggers stress in people tying up mental resources, which often leads to decision-makers neglecting several important aspects. Making important financial decisions requires the careful consideration of the probability, expected time of occurrence or costs of several risks or threats ranging from loss of a job up to health problems. Unfortunately, some consumers either completely neglect such risk factors or assess them with extreme optimism. In addition, potentially adverse consequences of a financial decision to be made often become visible or noticeable years later, while people are reluctant to pay attention to long-term or uncertain consequences. Therefore, many complex or high-value finance products are sold based on assuming a single future outcome estimated by the distributor, and part of consumers easily rely on that single outcome.
7) Finally, some consumers are characterised by over-confidence in their capabilities while others suffer from unreasonable defeatism. According to a survey, over 16% of respondents evaluated their financial knowledge to be high although their performance was in the lowest quartile by the test, on the other hand, over 8% whose performance was in the upper quartile evaluated their knowledge to be extremely low. It may seem surprising, but surveys suggest that over-confidence mainly characterises people with limited financial knowledge while a higher level of knowledge is often accompanied with underestimation of own abilities. Using certain psychological tricks, the effects of cognitive distortion can be mitigated, but they cannot be used for the entire

23 https://evk.hu/blog/2021/01/02/a-viselkedesi-kozgazdasagtan-eredete-fogalma-es-alkalmazasa-napjainkban/.

> population partly due to the costs involved. Also, you should be careful if you want to reduce over-confidence. Experience has shown if you ask somebody to name an uncertain future event that could be disadvantageous for them, for instance, the loss of their job or unexpected health-related expenses, they will become uncertain than make a reliable risk estimation.

The above logically suggest that effective financial education must be widespread, regular, or even mandatory; it should be focused on the place and time of decision making and its content should be tailor-made. However, meeting all requirements at the same time would probably be much higher in terms of time and costs than the usual public educational campaigns, in addition, a highly qualified, well-paid and independent team of financial educators and advisors would be set up and maintained for implementation. Its full expenditure requirement seems highly doubtful to be lower than the societal usefulness of education. What is more, most practices mitigating the effects of cognitive distortion might be deemed unreasonable intervention into people's private lives. *Keeping a sound mind, you should then settle for accepting that, even in an optimal case, financial education can transfer such and as much knowledge as will allow participants to be able to realise in a specific instance what and where they should investigate to make a prudent decision. Also, you should be aware that knowledge transferred during education will not stick in all participants' minds and even part of what does stick will become obsolete with time. On the other hand, it is clear the rate of utilisation of sources invested in financial education in schools is not worse than that spent on teaching other subjects, e.g., biology or literature.*

In terms of the costs of financial education, one should also consider its funding. The public educational system is responsible for the lion's share of financial education and bears its costs too. Adult financial training is also regarded as a service in the public interest, but it is executed outside the school system for practical reasons. Municipalities or trade unions finance it from public funds or employers arrange and finance it as a welfare benefit. On the other hand, there is a global trend among financial service providers and their trade associations to devote major material and intellectual resources to financial education although, according to international literature, one of the main goals of financial education is to equip consumers for the critical evaluation of the offers by financial service providers. Actual examples of the financial service provider sector promoting financial education include the European Platform for Financial Education, the US Jump$tart Coalition, as well as several national trade associations such as the Hungarian Banking Association or the Association of Hungarian Insurance

Companies and some financial enterprises that arrange or support financial education programmes.[24]

Support by private companies and organisations is naturally not entirely altruistic. They often support school programmes of financial education because they create good marketing opportunities to win young clients. Still, many companies subsidise financial education programmes even if they have no direct influence on their content, make no direct profit out of them or will not directly increase their prestige. What can motivate profit-oriented enterprises to engage in such selfless activities? Well, part of them is afraid they will have to face other, invasive, and costly forms of regulations unless they can present financial education as a possible and effective way to manage consumers' financial problems. Other enterprises believe they can launch and spread some new products or new digital devices on the market quickly and successfully if, instead of advertising, they present them in a way that seems neutral and unbiased in educational programmes teaching their clients their safe use. Informing and educating clients about cyber security is particularly effective in a joint effort with supervisory authorities or the police, because such joint appearance has more credibility and impact on clients. It can also help prevent or mitigate threatening damages due to cybercrime; otherwise, the financial service providers should bear a part of such damages.

## 4 SOME THOUGHTS ABOUT THE RELATIONSHIP BETWEEN FINANCIAL EDUCATION AND FINANCIAL REGULATION

Many believe financial education strengthens consumers' autonomy, which renders too much regulatory interference superfluous or at least mitigates its use. Their main argument is that too much detail in the regulations restricts consumers' potential for free choice, which eventually underestimates them. On the other hand, education empowers consumers to rely on their own decisions in finance matters.

However, effective financial education may represent major interference in the autonomy of individuals. From a social aspect, mandatory financial education covering all can be regarded as effective, so people would be forced to participate even if they do not want to for some reason.

Secondly, eliminating cognitive distortion is only possible if people's thinking processes, feelings, motivations and, eventually, values are influenced and

24 For more details on community and national initiatives in the EU, go to the European Economic and Social Committee publication (EESC, 2016).

changed. For instance, overconfident people should be made to become more prudent and circumspect in making decisions. Impatient people should be taught to attach less importance to the time factor, i.e., speed should only be one of the factors in making their decisions.

Managing payment issues is one of the areas of financial awareness and education gaining significance.

1) It is partly because households' debts in the EU countries amount from 35 up to 206% of their annual income[25], and high indebtedness means high volatility.
2) On the other hand, it is partly because many people can find themselves in a financial situation through no fault of their own when they cannot meet earlier obligations on time or in full, but overdue payment usually entails severe sanctions. People in such situations need external advice. Not only because inexperienced people cannot assess the situation and devise the legal and financial solution of its optimal management, but also because anxiety and fear of the consequences may result in crippling stress, which aggravates their situation even more. So, in such a situation the people affected need joint advice and help by financial and mental hygiene experts to be able to give their creditors complete and accurate information about their financial situation as well as to produce a settlement proposal that is credible and can be undertaken responsibly. Concluding a settlement agreement and, most of all, its fulfilment is not a one-off act; it usually requires the debtor to change their earlier concept of money management. Traditional "nudge" set out by behavioural sciences[26]makes changes in behaviour by helping to modify habits and attitudes to certain issues. Such nudge is necessary; because complex processes or deficiencies of consideration often prevent people from making decisions that would have a long-term beneficial effect on their lives. Changing the behaviour of people in trouble will have a positive effect on them, while it means they must take part in targeted financial training that will curtail their independence.
3) Next, as educational programmes are devised, a decision must be made on what should be taught while there is no accord on what is deemed prudent financial behaviour. For instance, predictions should be made regarding the expected return of different investment options to offer individual strategies

25 Eurostat (2021): Gross debt-to-income ratio of households (in 2020), https://ec.europa.eu/eurostat/databrowser/view/tec00104/default/table?lang=en.

26 https://viselkedestudomany.hu/nudge/ and Országgyűlés Hivatala (2020) Infojegyzet 2020/4, Viselkedési közgazdaságtan, https://parlament.hu/infoszolg.

for supplementary pension savings, but even experts' views are highly diverse in this regard. Similarly, selecting the best investment requires a compromise between risk and return, which raises the issue of how much financial risk may or should an individual or household take. Financial education cannot be said to be effective if it fails to address such practical issues. A consumer following the "recommendations" of pension planning aids, which advise them to select a rate of return for each investment vehicle depending on how much they trust the growth outlook of the vehicle involved, has not received any substantive help for their decision making. A similarly useless piece of advice describes the rules of debt brake, but it gives no clue as to which part of the given provisions should be considered if you intend to take out a housing loan.

Most educators are aware of the above. They try as far as they can to guide their students in practical matters, for instance, which investment product they should invest their savings in, or what proportion of their regular income they should encumber for a housing loan. Although those pieces of advice must be sound technically and in terms of ethics, they inevitably reflect the teacher's opinion and preferences. Thus, students blindly accepting and following the advice received at school will unintentionally give up the autonomy of decision while they will have to suffer the consequences of their decisions as if they have made them independently.

## 5 POSSIBLE ALTERNATIVES OF FINANCIAL EDUCATION

Apostles of financial education believe personal autonomy and individual responsibility are ensured if rules and circumstances force an individual to make all their financial decisions on their own according to their knowledge. However, many think learning about the features of a sophisticated financial product or even recording and managing their household spending is a bother, it requires major intellectual effort or takes up too much time. You should also not forget people's attitude to bearing any kind of monetary loss is highly varied.[27] For instance, over 25% of investors feel any material loss is unbearable, they dread feeling regret, so if they are insecure about the adverse consequence of a decision, they fail to make any. And if they must decide, they try to get out of the psychic toll by turning to a financial advisor or asking their family, friends, or mates for advice. So paradoxically, many feel freer if mandatory rules, provisions relating to the given transaction "save" them from considering and deciding about their finances.

27 See *Prospect Theory* developed in 1979 by Daniel Kahneman and Amos Tversky, https://doi.org/10.2307/1914185.

Advocates of financial education emphasise they do not intend to create a world in which financial education renders regulations completely superfluous. They only wish to provide consumers with assistance in making responsible choices and prudent decisions. Still, if the only objective is that a given individual should spend more and invest better to supplement their pension, why financial education is the cheapest solution to achieve it? Building strong safety nets and guarantees and proper provisions are likely to reach the same result, which may be cheaper and more certain in some cases. If the goal to be reached is that consumers should only take out mortgage loans of amounts and terms they can afford in their current and expected future income position, would proper regulations not be a cheaper alternative at the societal level? One, for instance, obliges lenders to provide customers with loans of an amount and under terms they will certainly be able to repay given their asset position. One may find alternative solutions for most goals. You should consider in every case how the costs of financial education incurred are related to the costs of alternative solutions, for instance, to the application of provisions relating to financial service providers, or to the costs of personal advisory services offered to consumers free of charge. The latter should be considered since as no one can expect people to become financial advisors, similarly as it cannot be expected from them to become their own physicians, lawyers, or car mechanics.

Table 1 illustrates the instruments of financial culture and consumer protection as they mutually supplement and support each other. All international and domestic experience shows regulation and education are two actions supplementing each other that must be coordinated depending on the specific situation.

**Table 1**
**Financial culture and consumer protection – set of instruments mutually supporting each other**

| Financial culture | Customer protection |
|---|---|
| Education | legal and regulatory instruments |
| Awareness of information required for decision making | transfer of information required for decision making |
| Well-informed consumers drive competition among financial mediators | prevents service providers from abusing their dominance (level playing field) |
| Offers options to use the advantages of a broader but riskier playing field | protects in return for reduced freedom of choice and room for manoeuvre |

*Source:* Materials of MNB conference: *A pénzügyi kultúra helye, szerepe és jelentősége az oktatásban, a fiatalok nevelésében* [The place, role and importance of financial literacy in education and the education of young people], 03.10.2006.

## 6 CONCLUSIONS

Both international and Hungarian experience support financial education side by side with regulation is necessary to promote consumers' financial security and to improve their financial position. On the other hand, unrealistic expectations about financial education are not justified either from a professional or financial aspect. Partly because, similarly, to teaching any other subject, teaching finances will generate different individual knowledge. Although everybody will need financial skills in their lives more often than, e.g., what they have learnt in biology, you should be aware knowledge obtained through education will be used to a different degree by each person, and that is also true for financial knowledge. Because of such differences, regulatory tools must be used to prevent service providers from gaining an unfair advantage over their clients based on their superior financial skills.

Further, the range of financial services changes all the time; new constructions are born every day. The current digital revolution in finances also extends the range of available services, while it requires more knowledge for their proper and secure use. Changes in products and technologies necessitate the ongoing modernisation and update of regulations on the one hand, and on the other hand renders part of the knowledge obtained through financial education obsolete. All the above suggest two things:

1. Rather than transferring lexical knowledge through financial education, skills must be developed so that people could recognise what and where they could look up if they want to make a prudent decision.
2. Opportunities must be provided for those interested to update their knowledge if and when it becomes obsolete.

Considering that crucial financial decisions requiring diverse, special professional knowledge occur in the life of a person fairly infrequently, such specific knowledge need not be "stuffed" into teaching, it should be made available as advisory services instead. This is all the more true as advice cannot be replaced by regulations; since regulations have by their nature a normative character, therefore individual, case-specific problems can only be solved with provision of customized advice. It is quite easy to find many independent professional advisors on the market today, although using their services is costly. Therefore, discount rates or free advisory services should be made available to low-income people who cannot afford a professional advisor, to those for whom making financial decisions is mentally exhausting, or to all people who have got into financial difficulties through no fault of their own.

*Because of its use presented and despite its limitations mentioned, financial education is an activity for the communal good that can contribute to increasing the prosperity both of individuals and society. Thus, organising and financing the teaching of financial skills is a public task. However, the involvement of financial service providers and their trade associations is justified and should be encouraged, because it can result in direct benefits for society and indirect ones for the organisations involved.*

## REFERENCES

Arthur, Christopher (2011): Financial Literacy – Neoliberalism, the Consumer and the Citizen (thesis). Toronto: Ontario Institute for Studies in Education of the University of Toronto. https://tspace.library.utoronto.ca/handle/1807/30071.

Balázsné Lendvai Marietta (2006): Pénzügyi kultúránk fejlesztése mint a tudásalapú gazdaság megteremtésének egy fontos építőköve [Development of our financial culture as an important component of creating knowledge-based economy]. In BGF Tudományos évkönyv, http://publikaciotar.repozitorium.uni-bge.hu/67/1/szf_19_02.pdf.

Balázsné Lendvai Marietta (2013): A bankmarketing szerepe a pénzügyi kultúra fejlesztésében [Role of bank marketing in developing financial culture] (PhD thesis). Nyugat-magyarországi Egyetem, Sopron. http://doktori.uni-sopron.hu/id/eprint/406/.

Batsaikhan, Uuriintuya – Demertzis, Maria (2018): Financial literacy and inclusive growth in the European Union. *Bruegel*, Policy Contribution No 08, May 2018, https://www.bruegel.org/2018/05/financial-literacy-and-inclusive-growth-in-the-european-union/.

Csorba László (2020) Pénzügyi kultúra és pénzügyi műveltség, a pénzügyi magatartás meghatározó tényezői [Financial culture and financial literacy, decisive factors of financial behaviour]. *Pénzügyi Szemle*, 1, 67–82. https://doi.org/10.35551/PSZ_2020_1_6.

Demirgüç-Kunt, Asli – Klapper, Leora – Singer, Dorothe – Ansar, Saniya – Hess, Jake (2018): The Global Findex Database 2017 – Measuring Financial Inclusion and the Fintech Revolution. World Bank, Washington D.C., https://openknowledge.worldbank.org/handle/10986/29510.

*The Economist* (2008a): Getting it right on the money – A global crusade is under way to teach personal finance to the masses. London, Apr 5th ed.

*The Economist* (2008b): Ignorance is bliss. London, https://www.economist.com/free-exchange/2008/04/15/ignorance-is-bliss.

EESC (2016): European Economic and Social Committee: Financial Education for all – Financial education strategies and best practices within the European Union, 2nd Edition, Bruxelles, https://www.eesc.europa.eu/sites/default/files/resources/docs/qe-02-16-362-en-n.pdf.

Gai, Prasanna – Kemp, Malcolm – Serrano, Antonio Sánchez – Schnabel, Isabel (2019): Regulatory complexity and the quest for robust regulation, ESRB Reports of the Advisory Scientific Committee No 8, June, https://www.esrb.europa.eu/pub/pdf/asc/esrb.asc190604_8_regulatorycomplexityquestrobustregulation~e63a7136c7.en.pdf.

Klapper, Leora – Lusardi, Annamaria – van Oudheusden, Peter (2016): Financial Literacy Around the World: Insights from the S&P's Ratings Services Global Financial Literacy Survey. New York: McGraw Hill Financial Inc., https://gflec.org/wp-content/uploads/2015/11/Finlit_paper_16_F2_singles.pdf.

Kollár, Nóra Etelka (2014): Működik a kilátáselmélet? – Empirikus vizsgálat a magyar fiatalok körében [Does the prospect theory work? – Empirical study among Hungarian youth]. Befektetések és Vállalati Pénzügy Tanszék Budapesti Corvinus Egyetem, http://szd.lib.uni-corvinus.hu/7570/.

Kovács, Levente – Terták Elemér (2019): *Financial Literacy – Theory and Evidence*. Bratislava: Verlag Dashöfer, https://www.bankszovetseg.hu/publikaciok.cshtml?lang=eng.

Kovács Levente – Nagy Ernő (2022): Topical issues of improving financial culture in hungary. *Economy and Finance,* 9(1), 2–18, http://doi.org/10.33908/EF.2022.1.1.

Kovács Levente – Pásztor Szabolcs (2022). Financial culture in European education. *Economy and Finance,* 9(1), 46–61, http://doi.org/10.33908/EF.2022.1.3.

Németh Erzsébet (2022): Trainings in financial culture. A comparative analysis 2016–2020. *Economy and Finance,* 9(1), 62–95, http://doi.org/10.33908/EF.2022.1.4.

Németh Erzsébet – Vargha Bálint Tamás – Domokos Kinga (2020): Pénzügyi kultúra. Kik, kiket és mire képeznek? Összehasonlító elemzés 2016–2020 [Financial culture, who trains who and for what; comparative analysis 2016-2020]. *Pénzügyi Szemle*, 65(4), 554–582. https://www.penzugyiszemle.hu/documents/nemeth-vargha-domokos-20-4-mpdf_20201221175111_64.pdf.

NGM (2017): Pénzügyi tudatosság fejlesztésének stratégiája – Cselekvési terv a nemzeti stratégiához 2017–2019 [Strategy of developing financial awareness – action plan for the national strategy 2017–2019], Budapest, Nemzetgazdasági Minisztérium [Ministry for National Economy], https://2015-2019.kormany.hu/download/5/39/21000/P%C3%A9nz%C3%BCgyi%20tudatoss%C3%A1g%20fejleszt%C3%A9s%C3%A9nek%20strat%C3%A9gi%C3%A1ja.pdf.

OECD (2016): Financial Education in Europe – Trends and Recent Developments, Paris. https://www.oecd.org/education/financial-education-in-europe-9789264254855-en.htm/.

OECD-INFE (2020): 2020 International Survey of Adult Financial Literacy, Paris. https://www.oecd.org/financial/education/oecd-infe-2020-international-survey-of-adult-financial-literacy.pdf.

OECD-INFE (2021): Report – Supporting resilience through digital financial literacy, Paris https://www.oecd.org/finance/financial-education/supporting-financial-resilience-and-transformation-through-digital-financial-literacy.htm.

Willis, Lauren E. (2010): The Financial Education Fallacy. Papers and Proceedings, *American Economic Review*, 101(3), 429–434. https://www.researchgate.net/publication/227362955_The_Financial_Education_Fallacy.

World Bank (2019): Global Financial Development Report 2019-2020 – Bank Regulation and Supervision a Decade after the Global Financial Crisis. https://www.worldbank.org/en/events/2019/11/28/global-financial-development-report-2019-2020-bank-regulation-and-supervision-a-decade-after-the-global-financial-crisis.