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Financial Literacy

Panacea or placebo?
A Central European Perspective

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Introduction

Looking back at the eruption of the 2008 economic crisis, it is safe to say that for all practical purposes the entire global economy became contaminated within minutes. With the exception of a few dictatorships and/or underdeveloped countries, by the 2000's the global integration of financial markets had been accomplished, made possible by the rapid proliferation of deregulation and information technology. Pointing far beyond the real economy, on financial markets this has generated business volumes and free market competition with advantages – as well as risks – enjoyed by all the players regardless of state borders or deep knowledge. Moreover, on financial markets huge fortunes can be won and lost within a matter of minutes. Our tendency to talk about achievements and keep silent about failures is part of being human. The media is focused exclusively on sensational stories. It tends to present astonishing success stories as if these were within the realm of possibility for all, suggesting that financial markets are there for everyone to make deals. Yet, outstanding successes come with huge risks that professional investors naturally avoid or mitigate/leverage. At the same time, media reports often give the impression that even people with rudimentary training can be successful on these markets, provided they have enough courage. However, as it usually is the case: with sudden market shifts easily acquired fortunes can evaporate in seconds. Investors once touted as geniuses are knocked off their pedestal when it becomes evident they had failed to see the approaching calamity, and in their panic, lack of experience and ignorance failed to protect even what could have been saved.

Media reports have a strong impact on the behaviour of ’small guys’. They take their cues from these reports and try to break out of their mundane circumstances based on the presented models. However, they act too late or, just the opposite, react in panic without any regard to the risks. On the whole, they benefit from rallies on a much smaller scale, while they are more likely to suffer the effects of a downturn. This asymmetry is exacerbated when they embark on promising yet risky ventures without reserves, and in fact, often at the cost of irresponsible leveraging, where a loss leaves them in a catastrophic position. In the absence of financial skills, this asymmetrical effect persists over a long period and on the whole eventually leads to the downfall of the ’small guy’. Just as in gambling where some people become rich – albeit, only for a short time, experience shows – this group of investors is guaranteed to end up with the short end of the stick. This, for instance, is well illustrated by a series of financial scandals in Hungary: dazzled by high deposit interests and yield promises, the victims joined Ponzi schemes, while others, hoodwinked by extremely "favourable" conditions, took out loans beyond their means.

In times of crisis, losses suffered by small investors may involve huge numbers and reach dramatic proportions. This is why during and after economic crises the subject of financial education and its quality come under scrutiny at all levels of society. This has always been the case following each major economic crisis. The economic crisis that erupted in 2008 offers the following lessons:

1. A lack of financial and economic skills has greatly contributed to the rise of panic reactions as a result of which the crisis had an even deeper impact.
2. The absence of financial literacy and skills played a crucial role in prolonging the 2008 economic and financial crisis.
3. Due to poor financial literacy, restoring confidence following an economic crisis, the so-called shadow effect, may take much longer.

The effects of the crisis have been so severe as to make an analysis of the relationship of financial culture/knowledge and the economy indispensable, making comprehensive surveys necessary. Based on these findings new action plans may and must be developed and implemented that for the present and future generations may mitigate the effects of the identified threats, and offer the opportunity to avoid past mistakes.

Our survey conducted in 2015 among Hungarian university and college students resulted in the most surprising findings. In the survey we compared the financial skills/culture of students studying economics with that of students pursuing other studies. Regarding economics students, the outcome has been rather disappointing: when it came to questions not related directly to the mandatory curriculum they turned out to be only slightly more adapt than their peers studying other disciplines. One of the explanations is that basic financial skills had not been passed down to them either by parents or earlier schools, and they may never have realized what they had been missing all along.

The shadow effect following economic crises, the time it takes to regain confidence and forget the blows, usually takes 5 to 10 years. In other words, for at least a decade political leaders, professionals and practicing economists keep the dissemination of knowledge underlying financial culture on top of the agenda. All over the world, following such an event government action plans are drawn up, scientific papers are published, conferences are held and considerable financial resources are mobilized to improve financial skills and promote "inclusion", all in an effort to make financial literacy accessible to everyone. The relevance and urgency of the topic is well demonstrated by the fact that, in cooperation with the New Zealand government, the OECD is organizing an international symposium for 150 top government officials, financial and educational professionals from 40 countries just at the time this book is about to got to print.

The main question of the future is whether, during the consolidation period referred to above, the teaching of financial skills can be made an integral part of the mandatory school curriculum. The economic challenges of our time give top priority to education focusing on information and natural sciences. However, European educational systems tend to react too slowly to changing needs; in almost all levels of education liberal arts continue to dominate. As a result, there is an overproduction of professionals in the humanities, and a shortage of experts in scientific fields. This lopsided output determines the availability of professionals on the labour market for decades to come and, if not by design, in effect hampers the modernization and development of the economy. Aside from that, it is a great handicap that the teaching of financial skills is not an integral part of school curriculum, even as in a market economy taking care of finances and a rational management of financial assets should be an indispensable part of basic knowledge, regardless of the level and quality of education one has received. Obviously, a gap between school curricula and daily life is far from a new phenomenon: in one of his letters Lucius Annaeus Seneca had already complained that "non vitae, sed scholae discimus", or "we do not learn for school, but for life". One of the very purposes of writing this book was to set the teaching of financial skills “back on its feet” and ensure that students acquire useful financial skills already in school. In an age of the rapid proliferation of info-communication technologies and the digitalization of the entire economy there is a need for new knowledge and ways of doing things, because the technological revolution of the past few decades has fundamentally transformed not only production and traditional services, but also day-to-day finances. Today, someone without a bank account or unable to take care of finances electronically risks social exclusion. Just as a few decades ago acquiring a driver’s license was all but mandatory, today familiarity with and the application of advanced digital financial services is becoming indispensable.

In short, making financial education part and parcel of the school curriculum will no longer suffice; instead, it must be adjusted to the special needs of our day and age. Moreover, the proverbial advice, "live and learn", must also be applied in financial education. Taking this as its starting point, the book treats all the issues raised by "fintech", of course primarily in the context of education.

The authors express their appreciation to all those who have made this book possible with their comments, recommendations and cooperation. Our special thanks go to Péter Kovács (University od Szeged) and Andreász Kosztopulosz (University od Szeged) for their editorial advice, as well as Wim Mijs (European Banking Federation) and Ágnes Sütő (Hungarian Banking Association) for their thoughts on financial culture, all of which contributed to the creation of this work. We also thank Tibor Navracsics, European commissioner for education, culture, youth policy and sport, for his inspiring foreword. We would also like to thank the publishing-house staff, who prepared the material for publication, as well as native-speaking editors and translators, who helped to prepare the English-language edition. Last but not least, we owe gratitude to our families who, with their patience and understanding, allowed us to complete this work.

With all that, the authors are fully aware that with all the help and useful advice, the book does not cover all aspects of the selected topic and it must contain a number of errors and omissions. The authors take full responsibility for these. At the same time, we trust that with all its flaws, the book makes an important contribution to the improvement of financial culture and knowledge.

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Levente Kovács & Elemér Terták

The concept of financial literacy

The necessity for financial knowledge, skills and literacy has been recognised again and again during a succession of economic crises. Recognition of any deficit in this regard is also inevitable, since economic crises are accompanied by falls in share and bond prices, the weakening of exchange rates of individual currencies, reductions in headcounts at companies, corporate bankruptcies, cutbacks in employee benefits, declining consumption and trade, and so on. These elements can be felt by average individuals too, in the form of decreasing incomes and threats to their jobs, to their continued ability to maintain a roof over their heads under the burden of mortgage loans, and to the survival of their very livelihoods. Because of their accumulated and universal impact, the more serious economic crises trigger shock effects on society, which immediately elicit the efforts of economic and political leaders and scholarly experts alike.

Examination of the societal impact and causes of a crisis has always extended to measuring individuals' preparedness, the soundness of individual decisions taken in the lead-up to the given crisis, the responsibility of society and individuals, and their capacity to bear the related burdens. The conclusions of these studies have always stated that, both on the individual and societal level, a lack of knowledge, skills and literacy in economics and finance has played a significant role in the evolution, deepening and prolongation of the given crisis, which must be remedied immediately. "The concept of financial literacy is not new, as attempts were already being made in the United States at the beginning of this century to increase the public's knowledge of financial matters – albeit with the primary goal of creating and expanding the market for financial products. To put it simply, it was necessary to explain to people which financial products (e.g. bank deposits, credit, etc.) might best be used and how. The time that has elapsed since the turn of the century, however, has yielded not only a significant degree of innovation in the area of individual commodities, but also with respect to products offered by the financial sector. Various research studies date the start of the major wave of innovation in the area of financial products to the 1980s. In all likelihood the financial products in use until then had reached the limits of their inherent possibilities and, shadowing processes in the real economy, it was at this time that sufficient pressure came to bear on the financial sector to renew its offering of financial products and services in response to demand. This process continues to this day in parallel with the acceleration and increasing sophistication of economic processes." (Béres, 2013)

"The financial crisis that unfolded in 2008 exercised numerous negative effects on the economy, and through this on society as a whole. The reason for the worldwide recession in this case cannot be primarily traced back to structural problems in the real economy, but can be connected instead to accelerated product innovation in the financial sector." (Survey in higher education, 2013.) The deficit in modern and up-to-date financial knowledge thus crucially contributed to exacerbating the economic crisis, burdening a broader section of society and dragging it on further in time.

Among aspects of financial literacy suffering a deficit, and thus subject to examination, it is customary to list the following elements as those presenting increasing challenges:

- knowledge of simple financial concepts;
- financial knowledge and understanding of financial processes;
- ability to apply financial knowledge and acquired experiences;
- ability to reach well-founded and conscious decisions.[1]

Before we close this chapter thus, however, we must broaden our perspective to the world at large, which is very diverse in terms of both its economic and financial development. For this reason, as in any sphere, we must pay attention to the economic background when estimating the amount of useful knowledge that is required. Many categories can be created; however, in terms of the content of financial knowledge, it is worth distinguishing three different groups of countries:

1. the least developed countries in the world, where even holding a bank account is a privilege (e.g. the poorest countries on the African continent);
2. countries in the world where the securities market plays a comparatively important role in ensuring the economy's supply of capital;
3. countries in the world where the economy is financed primarily by commercial banks.

The poorest countries are worth dealing with separately, since a large number of citizens of these countries are unable to open bank accounts and so are unable to connect with the global financial system. This is a disadvantage that pushes them away from convergence and towards backwardness; for them, there is only one economic space, the narrow local region, in which cash is the typical means of settling accounts, meaning that today they must still efficiently make do with this scant financial instrument. Just as we experienced in the age of gold coins, when the scarcity of gold restrained economic growth in enclosed regions, these poorer regions now confront the same factor inhibiting development. Two steps are necessary in order to eliminate extreme poverty:

- access to banking services, for which – because of extreme poverty – a support system needs to be developed;
- preparing people to use financial services that are not yet accessible today through role-playing education.

Due to the varying financial processes of bank and stock market-oriented countries, it is worth making a distinction from the point of view of necessary financial knowledge.

"A key function of any national financial system is channelling funds from the savers and investors who have them to borrowers and businesses who need them. How that process takes place differs from country to country; some countries have systems that rely more on banks

[1] Béres 2013, and also Hung, A. A., Parker, A. M. & Yoong, J. K., 2009: Defining and Measuring Financial Literacy. RAND Corporation.

(or bank-like organizations), while others rely more on financial markets, such as the stock and bond markets.

Very little is known about why countries tend toward a bank-oriented or a markets-oriented system. This paper argues that a country's preference for bank or markets-based financing is associated with the culture's tolerance for ambiguity. Cultures that are less comfortable with ambiguity are more likely to rely on bank-oriented financing systems.

In some countries, such as Germany and Japan, businesses rely a great deal more on banks for financing than do businesses in other countries, such as the United States, Canada, or the United Kingdom, which rely more on financial markets, such as the stock and bond markets. Most countries lie at various points along a continuum between bank-oriented and markets-oriented countries." (Aggarwal – Goodell: National Preferences for Bank or Market Financing)

The difference in intermediary systems is also apparent in the traditional financial solutions used in society. Accordingly, in an economy built on securities markets, savers – and particularly larger savers – specifically favour equities and corporate bonds, gladly shouldering greater risks for the potential of a higher return. Consequently, in such societies, knowledge of capital market instruments and the range of investment banking services on offer is a fundamental financial requirement. In bank-oriented economies, on the other hand, there is a greater need for knowledge of classical commercial banks, which must be supplemented by an ability to manage investment funds, and within this pensions-oriented savings.

Based on the above, we can draw the conclusion that an international comparison of financial literacy and knowledge is impossible since different types of knowledge are required for managing financial challenges based on the level of economic development and the traditions of the given financial intermediary system.

Similarly, it pays to examine the temporal aspect, namely whether financial knowledge can be applied over decades, or if it is the kind of rapidly expanding field requiring continuous study and renewal. To demonstrate this, it is worth looking at the advances of the past few decades: the end of the gold exchange standard system and the abandonment of fixed exchange rates in the 1970s; the switch to electronic systems in financial infrastructures in the 1980s; the switch to electronic systems in consumer-bank relationships in the 1990s; the appearance of innovative financial products in the 2000s; and full digitization in the banking sector in the 2010s. In other words, a total shift has occurred in banking services with the passing of each successive decade, meaning not only that financial experience cannot be passed on from one generation to the next within one family, but that there is no chance of doing so even at the level of society as a whole. Moreover, due to the changes that arise in each decade, educational forms, teaching materials and the training of teachers also fall completely behind. This is to say that there is no sense in measuring financial literacy and knowledge chronologically either, since the basis of the knowledge itself is constantly changing.

Individual economic regions can be examined in terms of their financial literacy and knowledge, at identical points in time and broken down by age groups. Profound and thorough investigations of this nature will typically be carried out, following the global economic crisis that began in 2008, by countries in which society has been particularly deeply hit by the crisis. Other chapters of this book will present the depth to which Hungary was affected at the time of the outbreak of the crisis by its severe national indebtedness, budgetary imbalance, the government's inadequate preparations and the problems in foreign currency mortgage lending due to the explosion of the HUF/CHF cross rate, as well as by the methods of handling crises peculiar to Hungary. For this reason, thanks to the abundance and diversity of surveys pertaining to financial literacy, a database has been created which provides a comprehensive snapshot of financial literacy. This has proven suitable for pinpointing the appropriate requirements and methods for bridging the gap in financial literacy.

In the event that difficulties and crisis situations arise, a partial or general deficit in financial knowledge can engender social discontent, a search for scapegoats in connection with financial institutions and a plunge in the moral reputation of these institutions. In 2008 and 2009, we witnessed examples of the above in almost every European country in the form of street protests and demonstrations.

The spread of financial literacy

"An advanced level of financial literacy is in the common interests of every participant in the economy. At the micro level, households and enterprises with typically greater financial literacy are more likely to avoid detrimental financial decisions… the greater the financial literacy in a society, the greater the available savings in the country… the financial literacy of the population contributes to the stability of the financial system itself. Partly as a consequence of the above, it is in the fundamental interest of financial institutions to develop financial literacy since it contributes to growth in savings – and, through this, improving creditworthiness – in the private sector. At the same time, solvent customers represent a low-risk source of revenue for the sector. … Last but not least, developing financial literacy is also in the state's interest since with a higher level of financial literacy less emphasis needs to be placed on redistribution and stabilisation goals, which has a beneficial effect on every participant in the economy and the competitiveness of the country as a whole. (Survey in higher education." 2013.) [2]

[2] Further references: IBRD, OECD, DFID, CGAP, 2009. The Case for Financial Literacy in Developing Countries: Promoting Access to Finance by Empowering Consumers. Washington: The World Bank; Czakó, Á., Husz , I. & Szántó , Z., 2011. How far do we stretch ourselves? – Changes in the financial literacy of Hungarian households and enterprises during the period of crisis. Budapest: BCE Innovation Centre Nonprofit Kft.; Klapper, L., Lusardi, A. & Panos, G. A., 2012. Financial Literacy and the Financial Crisis: Netspar.

The role of financial crises in the development of financial literacy

The need to provide financial education attracted increasing international attention in the aftermath of the Global Financial Crisis (GFC) of 2007-2008, although it had become the subject of interest already in the mid-nineties following an extraordinary upsurge in the number of bank failures in the 1980s and the early 1990s. Between 1980 and 1995 more than 1,600 banks in the US were closed or required financial assistance (FDIC, 1998), including the failure of 1,043 savings and loan associations. In the early 1990s a banking crisis hit the Swedish banking sector after the burst of a real estate and financial bubble driven by a rapid increase in lending (Englund, 1999). In neighbouring Finland a deep systemic crisis shocked the entire Finnish financial sector that took place mainly in the years 1991-1993, after several years of debt-based economic boom in the late 1980s. In the same period almost all countries in Central and Eastern Europe had experienced turbulence in their banking and financial sectors (IMF, 2014). In the early 1990s, for example, banks in Poland and Hungary experienced a crisis, followed in 1994-1996 by the failure of several small banks in the Czech Republic, and severe problems in Latvia in 1995, when four of the country's large banks collapsed. The transition from a centrally planned to a market oriented economy was extremely painful due to toxic inherited loan books and a high degree of uncertainty endemic to transition economies. This situation was further exacerbated by the lack of three important factors: (1) experienced bank management; (2) market-enforced performance; and (3) standard measures to enforce risk hedging and prudent bank behaviour.

Although these crises hit several customers very hard, the incurred losses could have been contained through state interventions, moreover they had been caused by acute macroeconomic imbalances or regime changes, i.e., a strong nexus between the root causes of these crises and financial literacy could not be ascertained. Even the historic speculative dot-com bubble (also known as the “Internet bubble”) covering roughly the years 1997-2000 hit mainly well-off, financially savvy investors, who were driven by frenzy and exuberance, similar to a dozens financial crises the world has experienced since the Tulip Mania of the mid-1600s.

Different were the root causes of the GFC where the number of direct victims was much larger than at any time before and involved people in many cases already finding themselves in a vulnerable position – living on low incomes, unemployed, single parents, recipients of social assistance, and retirees. In the decades since the 1970s a combination of technological developments and financial deregulation around the world have created both opportunities and threats for consumers. On the upside, new financial products and services were made available to hundreds of millions of people offering higher yields on investments and lower fees for services. On the downside, financial products became more complex and the financial environment consumers faced became considerably more risky. Moreover, consumers often became exposed to increased costs: interest rate ceilings on debt were eliminated and greater fees were charged on low-balance accounts. While consumers enjoyed much-expanded credit access and new borrowing options, the ascent of exotic mortgage instruments, such as loans denominated in foreign exchange, often left these people unaware of the risks they became exposed to and did not understand the terms and conditions of the obligations they entered into, which often resulted in significant increases in their regular payment liability over time. They either relied on unsuitable financial advice from relatives or dishonest lenders or sheepishly followed the irresponsible behaviour of others. Just in one generation pension benefit schemes, once considered secure, to which the parents of the baby boomers were enrolled, had been replaced through various pension reforms by defined contribution retirement systems, which facilitated employment by improving employers' bottom line, but required them to figure out how much to save, where to invest, and how to make lump sum pay-outs last throughout retirement.

Accordingly, step-by-step finance became a world full of complexity and uncertainty. In the meantime, financial service providers have to manage a wide range of risks that arise both internally (inside their organisation) and externally (e.g. in natural, economic, and political environments). But consumers face even bigger challenges, as even simple financial products may hide pitfalls that, and there is abundant evidence, individuals often have difficulties comprehending. In particular it is worrying that over 30% of the population does not understand the concept of risk diversification (OECD, 2016). Other products, such as insurance or retirement savings options, which have the potential to provide benefit to clients, are often not entirely understood. Owing to the thick complexity of currently available financial instruments, a wide range of academics, politicians, and advocates have expressed concern that low levels of financial literacy may actually harm average individuals.

The low level of financial literacy worldwide raises serious questions about the general quality of financial decision-making by households. Financial education aims to improve decision- making by helping consumers acquire the basic knowledge and skills they need to understand the choices they face. A large and growing literature examines the effects of financial education on both financial literacy (as measured by test scores) and financial choices (such as saving). Findings underscore the importance of acquiring financial literacy as early as possible. Indeed, in many respects, improving basic financial education at the elementary and secondary school level can provide a foundation for financial literacy, helping younger people avoid poor financial decisions that can take years to overcome. In particular, competency in mathematics – both in numerical manipulation and in understanding its conceptual foundations – enhances a person's ability to handle the more ambiguous and qualitative relationships that dominate our day-to-day decision-making. For example, through an understanding of compounding interest, one can realise the cumulative advantage of regular saving. Similarly, learning how to conduct research in a library or on the Internet can be instructive in where and how to look for information to evaluate the consequences of decisions. Educational efforts aimed to improve fundamental mathematical and problemsolving skills can nurture knowledgeable consumers who can take full advantage of the sophisticated financial services offered in an ever-changing marketplace.

Almost universally, the dominant model for regulating consumer credit, insurance, and investment products is based on disclosure and unfettered choice. As these products have become more complex, consumers' inability to understand them has become increasingly apparent, and the ensuing consequences more dire. In response, policymakers have embraced financial-literacy education as a necessary corollary to the disclosure model of regulation. This education is widely believed to turn consumers into "responsible" and "empowered" market players, motivated and competent to make financial decisions that increase their own welfare. The vision created is of educated consumers handling their own credit, insurance, and retirement planning matters by confidently navigating the bountiful unrestricted marketplace.

Although this vision is seductive, promising both a free market and increased consumer welfare, the underlying belief in the effectiveness of financial-literacy education lacks strong empirical support. Key stakeholders are well aware that the lack of individuals' financial literacy cannot be identified as a main factor leading to the GFC. However, there is a broad consent that financial illiteracy certainly contributed to deepening and worsening its effects.

While strong financial literacy skills may be necessary for good financial decision-making, they will not suffice; heuristics, biases, and emotional coping mechanisms that interfere with welfare-enhancing personal finance behaviours are unlikely to be eradicated through education, particularly in a dynamic market. Thus, harbouring such beliefs may be innocent but far from harmless; the pursuit of sufficient financial literacy skills may pose costs that can swamp any realisable benefits. Moreover, for some consumers financial education may increase self-confidence without improving ability, leading to even worse decisions. When consumers find themselves in dismal financial straits, the regulation-through-education model blames them for their plight, shaming them and deflecting calls for effective market regulation.

Unfortunately, literature sheds little objective light on the behavioural impact of financial education. Discussion of this issue is typically coloured by paternalistic judgments (e.g., people are better off with high saving and balanced portfolios) and/or strong preconceptions (e.g., a better understanding of choice options necessarily promotes better decisions). Yet it is also possible that financial education alters behaviour through mechanisms that involve indoctrination, exhortation, deference to authority, social pressure, or psychological anchors, in which case it may induce people to act contrary to the preferences they themselves would reveal through choices if they properly understood the consequences of their actions. Research shows that, in addition to limitated rational thinking, impatience and weakness may affect economic decisions – a fact that so far has been largely ignored by economics. To find the right solution among a set of available options is something other than this decision actually put into action. Many times, willpower and patience are in short supply and immediate gratification often seems to be a stronger motivating force. Although most people are aware that they should put aside savings for a secure and comfortable retirement, they often succumb to the urge of satisfying immediate desires, such as paying for a holiday trip.

A search for effective financial-literacy education should be therefore complemented by policies more conducive to achieving more effective consumer financial outcomes.

In a video titled “Who Protects the Consumer?”3 Milton Friedman said, “Consumers don’t have to be hemmed in by rules and regulations. They’re protected by the market itself. They want the best possible products at the lowest price. And the self-interest of the producer leaves him to provide those products in order to keep customers satisfied. After all, if they bring goods of low quality here, you’re not going to keep coming back to buy. If they bring goods that don’t serve your needs, you’re not going to buy them. And therefore, they search out all over the world, the products that might meet your needs and might appeal to you. And they stand in back of them because if they don’t they’re going to go out of business.”

This, however, is a very optimistic and somewhat naive view of the motives of financial service providers. Based on the efficient-market hypothesis, it assumes that they never engage in reputation mining and get away with it.

The challenge is to determine whether and how financial literacy can be taught and, closely related, whether there is causal link between improving financial literacy and financial outcomes. The evidence so far has been mixed, with large heterogeneity in the estimated success of training programs. Nonetheless, researchers provide survey evidence that people who attend financial counselling programs subsequently make better financial decisions, especially those attendees with low income and education levels.

As already mentioned, the insufficiency of basic financial knowledge and numeracy had been recognised quite early – already in the mid-nineties. Numerous surveys have emphasised for example that the US population and specific sub-groups have very low levels of economic and financial literacy. This is why as early as June 2006 – well before the onset of the GFC – at their meeting in St. Petersburg the G8 Finance Ministers called for “the development of financial literacy guidelines based on best practices” (Pre-Summit G8, 2006). This call was preceded by considerable analysis of financial capability done by the OECD among its member countries and the recommendations formulated on how to improve it. In 2008, following two OECD International Conferences on Financial Education in Washington and in Indonesia, the OECD established the International Network on Financial Education (INFE), currently comprising over 240 public institutions with expertise in financial education from 110 countries and economies.

Indeed, post crisis regulatory reform has sought to improve financial decision-making. The Dodd-Frank Act established an “Office of Financial Education” within the Consumer Financial Protection Bureau to develop and implement a strategy to improve the financial

[3] See transcript at: https://thedailyhatch.org/2013/09/04/free-to-choose-who-protects-the-consumer-video-and-transcript-part-1-of-7-milton-friedman-allowing-the-free-market-to-work-is-the-best-thing-for-consumers/

literacy of consumers (Dodd-Frank Act, Title X, Section 1013[4]). This federal effort comes in addition to state initiatives requiring high schools to include personal finance in their standard curriculum. High school provides an opportunity to offer programs that can achieve near-universal coverage. As of 2009, 44 U.S. states included "personal finance" in their standard high school curricula[5].

Financial education was already on the European Commission's agenda before the crisis. In December 2007, the Commission published the Communication "Financial Education", in which the role of financial education in the Internal Market and its importance for consumers, society and economy were set out. In addition, the Commission published eight principles for financial education programs and launched four concrete initiatives. In August 2008 the Commission set up the Expert Group on Financial Education (EGFE) for a three-year period. However, the mandate of the EGFE had not been extended and, instead, it was decided to build on the achievements of OECD's International Network for Financial Education (INFE) that was set up to stimulate the exchange of best practises and lessons learned. Since then several Member State governments have engaged in the development of dedicated national strategies, aimed at enhancing financial education efficiency through nationally co-ordinated and tailored efforts. Based on an assessment of the population's needs, national strategies are particularly designed to harness relevant existing resources as well as to adjust and co-ordinate existing programmes from a variety of stakeholders with a view to enhancing financial education efficiency. These strategies have been adopted either as stand-alone public policies, or in combination with financial inclusion and/or consumer protection approaches. (Russia's G20, 2013)

The need for more education in the area of personal financial management and the adoption of national strategies spurred also the creation of a number of influential, nationally representative organizations. At the same time, financial education programs were introduced also by a wide variety of providers, including community-based organizations, financial service companies and their respective trade associations. With the contribution of these actors financial education services became diverse, ranging from school-based programs for youth to specialized training for underserved adults. However, these educational interventions come with real costs and often generate even larger opportunity costs by supplanting some other activities, such as compulsory high school courses. According to estimates, the real and opportunity costs of the initiatives are in the range of several billions of dollars annually. Governments have realised that given the long-term nature of financial education policies and their cross-sectoral nature involving governments, financial and educational authorities, it is necessary to establish frameworks for effective design and delivery. Thus countries have started establishing co-ordinated and tailored strategies to

4 See: https://www.law.cornell.edu/wex/dodd-frank_title_X
5 See: https://www.financialeducatorscouncil.org/financial-literacy-curriculum/

achieve efficiency goals in order to avoid duplication of resources and efforts while maintaining the active participation of all relevant stakeholders.

As a result of the lessons learned during and after the crisis, and thanks to the various initiatives to foster the financial literacy, there are already signs of gradual adjustments in the financial behaviour of households. A key component of financial educational efforts is the promotion of informed decisions. The Federal Reserve Board's last triennial Survey of Consumer Finances (SCF) (Changes in U.S., 2014) gauged in detail which information sources were used by households before and after the occurrence of GFC for making decisions about borrowing or investing. According to the findings, friends, relatives, and associates remained the most important (and most trusted) sources for information, suggesting that there are feedback effects in financial outcomes; those who know relatively well-informed people may obtain better services. Providers of financial services stayed also important sources of information. However, an apparent significant change was the rise of the internet as an important source of information, while the relevance of advertisements declined considerably (See Table 1). This auspicious change can be attributed – at least in part – to successful educational efforts.

Table 1

Information used for decisions about borrowing or investing, 2007-13 surveys

Source	**Type of service**					
	Borrowing			***Investing***		
	2007	***2010***	***2013***	***2007***	***2010***	***2013***
Friends, relatives, associates	45,9	43,9	46,1	42,3	40,8	40,8
Bankers, brokers, and other sellers of financial services	39,2	39,5	41,5	38,3	39,1	38,3
Internet	38,4	41,7	47,0	28,3	33,0	35,3
Lawyers, accountants, and other financial advisors	19,5	19,5	21,5	29,3	31,1	31,8
Advertisements and media	43,0	34,2	29,0	29,9	26,1	21,3
Calling around	33,4	27,0	24,7	18,0	15,7	13,2
Does not borrow or invest	9,6	14,6	13,7	10,2	11,7	13,2

Source: FRB Changes in U.S. Family Finances from 2010 to 2013

A big peril in designing financial education programs is the trap of "fighting the last war", i.e., pursuing a strategy that, while clearly identifying the shortcomings and sins of the past, fails to provide relevant guidance for the future. We live now in an era of paradigm shifts, when lessons learnt from the past do not provide sufficient guidance for the future. In this context the claim, "this time is different", is well substantiated.

At the same time, it would be a fallacy to believe that old rules no longer apply and that the new situation bears little similarity to past disasters. As demonstrated in Carmen Reinhart's and Kenneth Rogoff's "panoramic" analysis (Reinhart-Rogoff, 2014) of the history of financial crises dating from England's fourteenth-century default until the sub-prime financial crisis, or Charles P. Kindleberger and Robert Z. Aliber seminal book titled "Manias, Panics, and Crashes – A History of Financial Crises" (Kindleberger-Aliber, 2005), for centuries societies have been beset by "manias" that ended in financial crises. Though the scripts of such episodes were never identical, they followed a similar pattern. The rising costs of commodities, real estate and stocks were typically accompanied by boundless euphoria; household wealth increased and so did spending. While this had always been accompanied by a sense of "we never had it so good", as a rule the initial euphoria ended in bitter tears. Accordingly, today there is no reason to believe that the future course of events will essentially change despite all the efforts following the GFC, i.e., tougher and smarter regulations and the promotion of financial education. Although nobody foresees where, when, how, and why the next crisis will emerge, it is safe to bet that it will come and will have different symptoms and features than those seen during the GFC (Hsieh, 2016).

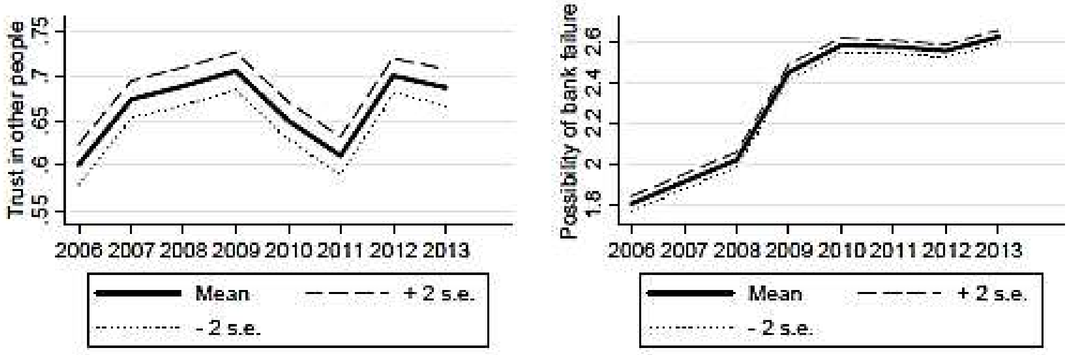
What conclusions can be drawn from such an assessment of financial education? First and foremost, there are good reasons to remain very circumspect and proceed with caution in designing a curriculum for financial education for the post-crisis era. What are the main issues to keep in mind?

1. The painful experiences of the GFC had at least two detrimental effects on <u>trust</u>. *First*, they dramatically reduced trust in the financial sector: following 2007 the general public's trust in the financial system has declined precipitously. Several polls revealed that trust in financial institutions dropped particularly low in Europe. In seven EU countries less than 30% of the people trusted banks or financial institutions, far below the median of 55% in a sample of 135 countries. Trust got the lowest among the Greeks, where 13% trust financial institutions, but also only 38% of the Germans have trust in their financial institutions.

   Negative experiences will compel customers to remain highly cautious and they are unlikely to assume long-term contractual obligations any time soon – irrespective of the level of their financial literacy, partly due to an inability to test services before making a commitment. (Cruijsen-Haan-Jansen, 2013)

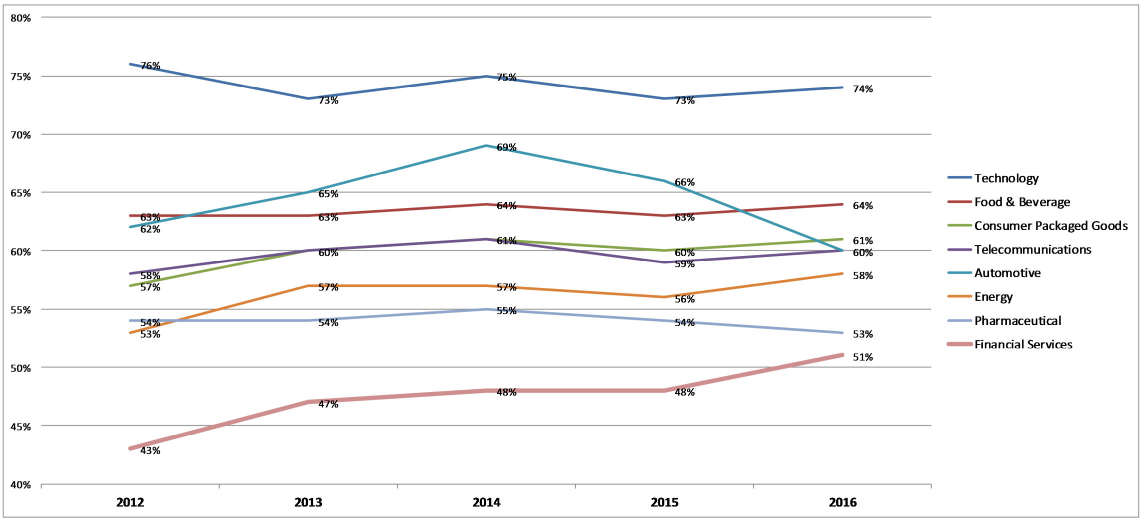
   Several financial service providers seem to have drawn the wrong lessons from the evaporation of trust, partly because they have a poor understanding of the concept of trust. The basic problem is that trust is often considered as a resource that can be built up and then used to the providers' advantage. However, it is a mistake to regard the lack of trust merely as an issue concerning the marketing department. The key driver of low trust in finance is the long string of scandals in financial sector and the perceived lack of social purpose. Right before the Lehman collapse, in a field of twelve sectors, the Edelman Trust Barometer 2008 (Edelman, 2008) rated banks as the fourth most trusted business sector. Then, in just one year they slipped back 6 places and since 2010 polls have repeatedly found banking to be the least trusted industry. Overcoming this publicly manifested suspicion is particularly difficult in the case of products and services that are inherently transactional. Thus, beyond actively seeking to get acquainted with consumer needs, priorities and expectations, and responding to them, banks must also find new ways to explain the services they are providing, and do a better job in explaining their business practices. It is evident that consumer perceptions are heavily influenced by such factors as business practices and remuneration policies, which means that banks must work harder to explain their approach concerning these issues. Accordingly, instead of trying to regain trust simply by improving their customer-facing processes, banks should strive to become more reliable regarding business practices where they should reasonably be expected to be trusted for.

Figure 1. Trust before and during the financial crisis



Source: DNB surveys using the CentERpanel

Figure 2. Trust in each industry sector, 2012-2016



Source: 2016 Edelman Trust Barometer, Global Report, January 16, 2016

Second: the erosion of trust harmed the proper functioning of financial markets. Low level of mutual trust reduced the "social capital,"[6] induced higher transaction costs that,

[6] There is neither a standard definition, nor a simple means of measuring, social capital. In general, social capital refers to the relationships, trust and co-operation forged between different groups of people over time. It is the sociological glue that binds diverse societies into a cohesive whole.

in turn, aggravated market activity, ultimately leading to lower welfare (Quddus-Goldsby-Farooque, 2000). This symptom ends usually in a downward spiral, because trust is strongly connected to economic well-being. Successive waves of data from the European Social Survey showed that respondents in wealthier economies reported significantly higher levels of interpersonal as well as institutional trust. It follows from these mutually reinforcing relationship that regaining trust requires fighting an uphill battle.

In an effort to overcome a lack of consumer trust, the financial services industry's usual response is to offer greater transparency and improved financial education. However, Table 2 suggests that the impact of such efforts remains relatively limited, at least if applied in isolation. Although greater transparency is likely to help rebuild consumer trust, fewer than one in two people (46%) would be impressed by such change alone. This may be due to a number of factors. For one thing, many consumers do not believe they need greater transparency or better information to understand the financial products they need. As Table 3 reveals, large numbers of customers already believe they have a good understanding. Furthermore, lengthy disclosures in small print tend to alienate most consumers, because such levels of complexity may be inaccessible to the vast majority of the general public.

The question is what changes are more likely to make people trust financial services providers? Aside from transparency, where should the focus be for financial services companies that seek to repair their battered reputations? The first point to make is that despite the headline findings on how well consumers understand financial products, there is still a role to play for better financial education and – particularly for providers – to engage with customers more effectively. The right answer is not to push out more and more product disclosure, but to guide customers through their choices in a way that is relevant and meaningful to them. Customer engagement and empathy over product disclosure is the point here. Moreover, the lack of trust in the financial services sector partly reflects a failure on the part of providers to articulate the value they are offering, leading to suspicions that their overwhelming priority is to pocket immediate profits. Overcoming this suspicion is particularly difficult in the case of products and services, which are inherently transactional. Nonetheless, providers must find new ways to explain their services, encourage consumers to voice their goals, priorities and expectations, and to respond to their concerns. Taking genuine and effective steps to satisfy these goals, especially where there is no obvious short term gain – or even a clear cost – to the provider, promises to be the right response.

Table 2 Factors that might improve consumer trust

Which of these changes would make you more likely to trust financial services providers?

Greater transparency on products and services	46%
Stricter codes of conduct for employees	41%
Changes to remuneration rules	40%
Improved internal governance	37%
Stricter recruitment screening	16%
More information on products and services	15%
More competition between providers	14%

Source: PwC: How financial services lost its mojo – and how it can get it back

Table 3 Consumers' understanding of financial products

	Understand	Do not understand
Personal loan	90	7
Savings account	88	9
Credit card	88	9
Current account	87	10
Direct stocks and shares	86	11
Home contents insurance	86	12
Buildings insurance	85	12
Cash Individual Savings Account	85	12
Motor insurance	84	12
Electricals/mobile device insurance	84	12
Stocks and shares Individual Savings Account	82	15
Mortgage	82	13
Health insurance	81	14
Life insurance	80	17
Private pension scheme	73	25

Source: PwC: How financial services lost its mojo – and how it can get it back

2. The next important issue is increased institutional and product complexity, as well as the implications of digital revolution. As financial markets have grown more complex, and exchanges within them became more remote and impersonalised by the digital revolution, the issue of trust has become more desperate. Systemic risk requires systemic trust, and the ways in which risk has been distributed across the system via complicated and often opaque instruments has tested systemic resources of trust to the breaking point. The choking up of different kinds of lending – inter-bank, business and mortgage lending – was a signal example of a crisis in confidence inside the financial system. The inability of banks to assess the creditworthiness of their partners in a context of toxic assets and byzantine debt obligations makes the risks of lending simply too high for trust to mitigate. (Tonkiss, 2009)

The general public often finds finances to be difficult because it is difficult – and, at least in some cases, because it is made deliberately so. There is plenty of evidence, including from the crisis, of financial products being made unnecessarily complex and consumers being charged exorbitant prices. This harmful cycle persists due to the difficulties consumers understandably face when trying to compare these products. (Haldane, 2016) In this context, more effort is needed to ensure that the products on offer provide genuine and valuable benefits to customers, and the specifics of each product are communicated honestly and in an intellectually digestible form. It would be a waste of efforts and money to attempt educating lay people to decipher opaque and complicated descriptions and disclosures.

The revolutionary changes induced by the rapid dissemination of various "Fintech" services (discussed in detail in Chapter X) are irreversible and will fundamentally alter familiar manifestations and traditional behavioural patterns, including, but not limited to, the physical appearance of money and its everyday use. Thus, restoring trust and confidence needs to be supported and complemented by means and curricula that stay abreast of technological changes. However, an adequate financial education faces the challenge that computer (and smartphone) literacy is vastly different when it comes to the different generations ("Gen X" or "Baby Boomer", the "Gen Y", and the "Gen Z"[7]), i.e., a nuanced and customised curriculum will have to be developed for each demographic group.

3. The global-wide application of unconventional monetary policy following the GFC, such as quantitative easing, has changed paradigms both in savings and borrowing. In the fourth edition of their seminal book, "A History of Interest Rates" (Homer-Sylla, 2005) published in 2005, the two authors, Sidney Homer and Richard Sylla, provided a comprehensive chronicle of 5,000 years of interest rates, but not a single line in the 732 pages volume was written about negative yields. Though the trend of interest rates continuously declined since Hammurabi to Ben S. Bernanke, negative yields were nowhere existent, yet today they are here in droves.

   Interest rates currently do not offer proper guidance for households or entrepreneurs, as had been the case in the past. Market interest rates no longer incentivise and reward savings – even as making provisions for future retirement certainly requires more private (individual) thriftiness. Conversely: while at prevailing interest rates borrowing (theoretically) should be attractive and affordable in the short run, predictable future hikes in interest rates make borrowers cautious and prudent.

[7] The meanings of these phrases is explained on the website http://socialmarketing.org/archives/generations-xy-z-and-the-others/

As, under current conditions, conventional wisdom does not offer suitable orientation, the curriculum of financial education has to accommodate the idiosyncrasies of today's environment.

The reputation of the banking sector

Today's banks have evolved as the outcome of centuries of development. Money-changers dealt in coins as long ago as antiquity, their presence a necessity at large markets and places of commerce where a variety of currencies changed hands. In the Middle Ages, cities in Northern Italy saw the most significant development in banking as money-changing grew into a business activity. Besides changing money, money-changers also accepted coins for safekeeping for a fee, providing a formal receipt by which they committed to paying back the money placed in deposit at any time on request. This laid the foundations for the collection of deposits as a new line of business. The first form of deposit, whereby merchants would receive back the very same coins they had placed with money-changers for safekeeping, was known as a regular deposit. This was distinguished from an irregular deposit, whereby merchants would not receive back the same coins they had deposited, but a sum of the equivalent value. The common characteristic of deposits was that the person placing them paid a custodial fee. This was gradually reduced, and eventually disappeared entirely with the arrival of the significant new development whereby money-changers began to pay interest on money placed in their safekeeping. This change led to the emergence of savings deposits and lending on credit as business lines. The volume of money in circulation changed with the onset of the Industrial Revolution, as further advancement required the widespread accessibility of cheap loans and banks were compelled to evolve to meet growing demand.

One of the best-known scenes in the cultural history of money-changing is Jesus's cleansing of the Temple, as described in the *Gospel According to John*, chapter 2, verses 13–16: "The Passover of the Jews was near, and Jesus went up to Jerusalem. In the temple he found people selling cattle, sheep, and doves, and the money-changers seated at their tables. Making a whip of cords, he drove all of them out of the temple, both the sheep and the cattle. He also poured out the coins of the money-changers and overturned their tables. He told those who were selling the doves, 'Take these things out of here! Stop making my Father's house a marketplace!'" The scene has been immortalized by the most renowned artists, with the money-changers/ profiteers generally portrayed in a pejorative light.

Interest as a legal concept was known as early as antiquity – even before the forerunners of today's banks appeared – and was dealt with in the Twelve Tables of Roman law. It was known in the Eternal City as "usura" or "foenus." The former derives from "usus" ("use"), and was defined as the lending out of money at interest. The term has survived in the expression "usury." Although the charging of interest was restricted on several occasions in Rome, the practice blossomed and its abolition was not discussed. It would only be swept away by Christianity, together with the Empire itself. The Bible had its own distinctive decrees with respect to the practice. The Old Testament prohibited Jews from charging interest to other Jews: "If you lend money to one of my people among you who is needy, do not treat it like a business deal; charge no interest." (*Exodus* 22:25) However, it was permitted to charge interest to Gentiles, and this would later prove the source of numerous conflicts in mediaeval times, as well illustrated in Shakespeare's comedy *The Merchant of Venice*, written between 1596 and 1598.

Although Christianity sprang from Judaism, it would distance itself from it somewhat with respect to interest. This explains why early Christian authors argued for a general prohibition on interest irrespective of origin.

By its very nature, the Bible deals in prohibitive terms with the question of interest with regard to the (poor) common man, with a view to preserving the principle of relative human equality. "If you lend money to one of my people among you who is needy, do not treat it like a business deal; charge no interest. If you take your neighbour's cloak as a pledge, return it by sunset." (*Exodus* 22:25–26) "You shall not charge interest on loans to your brother, interest on money, interest on food, interest on anything that is lent for interest." (*Deuteronomy* 23:19)

Through the close interweaving of public life and religion, these interpretations held general sway in the Christian world right up until the time of the Reformation (16th century), hindering the significant growth of the banking sector and indirectly qualifying it as the privilege of outsiders. The question did not escape the notice of the greatest thinkers of mediaeval times.

Chief among the works of Saint Thomas Aquinas, the most influential thinker of the Middle Ages, was his masterwork the *Summa Theologica*, written between 1266 and 1273. The pillar of the economic ethics of Thomas Aquinas is fixed in Aristotle's approach to money as an indispensable necessity. Humanity stands at the forefront of his own approach to economics, in which he analyses various economic questions.

Mediaeval moralists – among them Thomas Aquinas – held natural economy and autarchy to be preferable to the production and trade of commodities. They had reservations about accepting the process of products becoming commodities, but they particularly opposed the buying and selling of money as a commodity. Thomas Aquinas formulated his view on the nature of money by connecting to Aristotelian traditions, adopting Aristotle's idea of money as "nomisma, because it exists not by nature but by law (nomos)."

Beyond this, the opinions of Thomas Aquinas were also influenced by Roman philosophers, who did not view money as a commodity, even prohibiting its trade. They conceived of money as a mere symbol. In their perception, the value of money was dictated by law, or decreed by the ruler in power. Essentially, they regarded money as a legal measure of value.

The authentic and contemporary view of money in the legal dogmatics of the Roman period tended towards money as an object, the special nature of which – beyond property law and separate from its physical existence – was recognised at an early stage by Roman legal scholars.

Thomas Aquinas thus connected to the legalistic theory of money in antiquity. In his commentary on Aristotle's *Ethics* (Book V, Lect. IX), he himself describes money as a measure prescribed by law. As he says in his commentary: "Hence currency is called money (numisma) – nomos means law – since currency is not a measure by nature but by law (nomos). It is in our power to change currencies and make them useless."

As far as the fundamental function and purpose of money is concerned, he also took the ideas of the Philosopher (Aristotle) as his starting point in this regard.

"Money (numismata) was invented because of the need for exchange, as the Philosopher says in *Politics* Book VII," wrote Thomas Aquinas. The function of money was thus determined in the context of mediation of trade in commodities (C-M-C). Thomas Aquinas – faithful to the Greek tradition – fervently wanted to maintain money as a mere instrument and measure of trade, but did not want it to become money of itself. He strongly criticized instances when money moved outside the process of trade and acted independently. His stated opinion on the question of usury (interest) clearly exemplified his opposition to money becoming independent in this way.

Thomas Aquinas adopted a standpoint in the name of justice on the much-debated question of usury or interest. In the *Summa Theologica*, he asks the following question: "Is it a sin to take usury for money lent?" – to which he replies: "To take usury for money lent is unjust in itself, because this is to sell what does not exist, and this evidently leads to inequality which is contrary to justice." Lending money for usury (interest) he thus qualified as unequivocally sinful.

To charge interest is therefore also to sell what does not exist. Consequently, an inequality arises between the two parties that is contrary to reciprocal justice. For this reason, to take usury for the lending of money is inadmissible and prohibited. Thomas Aquinas presents more detailed arguments for the prohibition on usury in his *Questiones Disputatae*.

In tacking the prohibition on usury, beyond elaborating conceptual frameworks, Thomas Aquinas differentiated things according to their use, observing that different things have different uses. There are certain things the use of which consists in their consumption, such as wine, bread or grain. We use wine or bread by consuming it; in the case of such things, the two actions (use and consumption) cannot be separated.

On the other hand, there are also things the use of which does not consist in their consumption; for example a house, where the use of the house does not mean its consumption (destruction). In the case of a house, therefore, we can separate the right of ownership from the right of use.

Thomas Aquinas lists money among the former class of things, interpreting money as a thing that is usable and consumable (res consumptibiles). In his view, the use of money is equivalent to its consumption; hence "the proper use of money is the consumption or disbursal of it, according as it is expended on exchanges." Money is consumed in the course of an exchange, i.e. as it passes from one party to another. Money – as an instrument of exchange – is therefore a consumable thing. Whoever takes usury for money lent, therefore, "is either selling what does not exist or the same thing twice over, namely the money itself, the use of which is its consumption."

Thomas Aquinas – similarly to Aristotle – did not therefore regard money as a productive thing. In his understanding, money is barren and its use does not bring interest. If, therefore, the use of money brings no interest, then it is unjust to demand what does not exist. Consequently, both Thomas Aquinas and Aristotle regarded the charging of interest as immoral and against nature. (Bodai: Economics and ethics)

Besides Christianity, the other great global religion of Islam also adopted a negative position on the question of interest, the prohibition on interest being among the best-known prohibitions in Islamic law – although at its inception, Roman, Jewish and Persian law alike recognised and applied the payment of interest. Accordingly, Muslims may never, under any circumstances, charge or accept interest.

"And whatever you lay out as usury, so that it may increase in the property of men, it shall not increase with Allah; and whatever you give in charity, desiring Allah's pleasure – it is these (persons) that shall get manifold." (Quran 30:39) Nowhere else in the Quran is war initiated by Allah against anyone else but against those that collect interest: "O you who believe! Be careful of (your duty to) Allah and relinquish what remains (due) from usury, if you are believers. But if you do (it) not, then be apprised of war from Allah and His Apostle." (Quran 2:278–279)

Based on the teachings of Islam – and by its very nature – world view, faith and morality are closely interlinked. It is primarily to this that one can attribute the stipulation of a universal prohibition on interest, which is generic and to be applied irrespective of social status and the amount of interest. As a set of theological and divine guiding principles, sharia law essentially opposes exploitation of any kind (of land, young women) with a view to creating a healthier disparity between parties since it holds that as a matter of course this qualifies as taking unfair advantage of another's unfavourable situation. It stands to reason that, given sharia is a living religious law applying to all areas of everyday life, then it also applies exceptions and possible deviations from the main rules. Allah declared that it is possible to do penance, and made the method for this clear. As the Quran says: "…and if you repent, then you shall have your capital; neither shall you make (the debtor) suffer loss, nor shall you be made to suffer loss." (Quran 2:279) The prohibition on interest is observed strictly to this day by followers of the Islamic faith.

By questioning certain dogmas of the Catholic Church, the Reformation in itself launched significant intellectual, economic and social processes. The new economic school of thought also became apparent with regard to interest.

One of Martin Luther's most influential achievements – contrary to the Catholic conception – was to explicitly increase the moral emphasis on work carried out as a worldly vocation, as well as its religious reward. The altered attitude to vocation and the moral valorisation of worldly work had a stimulating effect on the development of the economic sphere, since it toppled the dividing wall between the monastery and the market, allowing people to glorify God while they worked – and what is more, even through their work. In his various writings, Luther took a resolute stance not only against "ungodly" trading, but also against banking activity motivated by the desire for profit. And yet in his time the true role and nature of money had radically transformed, increasingly changing from a general instrument of exchange to interest-bearing capital. In accordance with this real process, the theory of money also slowly transformed, pushing the often unjustifiably distorting moral approach into the background. Despite the rational evolution of these processes, Luther still belongs among those thinkers who prohibited the operation of money as capital in principle, only permitting it in some exceptional cases and to only a minimal degree.

At the start of his activity as a reformer, Luther took the view that one should offer one's help without payment to fellow beings in a tight situation. He taught that if we lend money, we should do so free of charge, or should ask only for the loaned amount to be returned. He spoke of usurers and money-lenders with deep contempt. For example, of the Fugger family of bankers, he asked: "How is it possible in the lifetime of one man to accumulate such great possessions, worthy of a king, legally and according to God's will?"

Later Luther's position on the lending of money and charging of interest shifted to a more realistic economic dimension more appropriate to the age. In a letter on usury dated 1540 ("an die Pfarherrn wider den Wucher zu predigen" – "To the Clergy, to Preach against Usury"), he persevered with his views attacking usury. He also persisted in refusing to declare interest unequivocally permissible. At the same time, he regarded the charging of interest as justified and permissible in two exceptional instances, namely in cases of "positive damage" and "loss of profit."

"Positive damage," similarly to the principles of the Roman damnum emergens, arises when, for example, the lender does not receive back their money by the appointed deadline and for this reason incurs an obligation to fulfil their commitment and related costs under a separate legal relationship, by which they are liable for payment. Many identify this instance with default interest in terms of legal dogmatics, although compared to the provisions of European civil law of present times, it is closer to the notion of "indemnity," since default interest arises even without a resulting loss of this kind. Positive damage, therefore, can be interpreted as an actual decrease occurring in assets.

"Loss of profit" (lucrum cessans), a related instance from the Roman legal perspective, comes about in Luther's view when the loan amount would have brought a profit if invested in something else during the time of the legal relationship. For example, if someone buys land or a garden, then they enjoy its yield or fruit. But a person who lends their money instead of buying land or a garden is deprived of these potential fruits. In this case, it is justified to demand interest equal to the lost profit.

In any instance, therefore, in which the lender has suffered positive damage or a loss of profit due to not being in possession of the loaned amount of money, Luther did not dispute the legitimacy of claiming interest. In accordance with the principles of Roman law, he thereby ultimately recognised that in such cases, some kind of compensation is due the creditor. At the same time, in further fine-tuning the legal consequences relevant to the occurrence of damages from the point of view of risk and probability, Luther emphasised that the situation is different if only the possibility of damages arises, in which case interest cannot be charged, given that the loss is not "inevitable" but only "possible" ("not real, but imagined damages").

In a new arena of interaction between economics and ethics, the main focus of Luther's teaching lay in human work and the moral valorisation of vocation, which had a simultaneously stimulating effect on economic processes. In his work as a reformer, Luther targeted the creation of a social system of values beyond the individual level that would lead to a set of norms in healthy equilibrium and the functioning of an economy based on human values. Besides honouring work, it would strictly limit people's desire for money and profit. Luther condemned the accumulation of money and capital, emphasizing that we should "leave money-making to the godless!" Luther's vocational ethic therefore does not bear a direct or close relation to the "spirit of capitalism" or the evolution thereof. (Bodai: The reformists)

John Calvin approved of industry and commerce, regarding them as honest forms of endeavour, in the pursuance of which we obey God by fulfilling our "calling" – "provided that, satisfied with our lot, we strive only for a fair and lawful profit, do not aim to enrich ourselves by unjust means, and do not endeavour to cheat our fellow man of his possessions in order to increase our own."

At the centre of Calvin's ethics, political philosophy and economic theory stood the authority of God. Since God created the universe and humankind, any "paltry" task carried out by man is valuable in God's eyes, and for this reason commercial activity was also accepted by Calvin. He regarded the justification for fair interest, and thus making profit on money through charging interest, as permissible to a certain level. Calvinism of the 17th century (so-called Puritanism) regarded the unremitting accumulation of wealth – the fruit of which cannot be consumed, but which must be invested in fresh enterprises serving others – as serving God and one's fellow man.

Calvin did not agree with the judgement of the mediaeval Catholic Church that accentuated the inherent physical nature of money, whereby the "propagation" of money was against nature. From a theological perspective, he criticized allusions to the Bible (Old Testament) in the prohibition on charging interest. From a human (spiritual) perspective, he emphasized that it was not interest in itself that was unacceptable, but the avarice that collecting interest engendered, which was irreconcilable with the Christian spiritual complexion.

When framing and evaluating Calvin's views, we must also remember that these ideas originated in the city of Geneva. The "capital-generating" environment of Geneva influenced not only Calvin's political views, but also his perception of economics.

In examining interest, Calvin started by asking the question – incomprehensible to him – of how, if land, means of production, commodities or a house which a person leases out can bring them profit, should the same be denied of money. He came to the conclusion that numerous forms of interest are acceptable; for example, when a creditor offers a loan to someone in need free of interest, but also when a person provides financial means to assist a fruitful enterprise. In the latter case, it is also natural for the creditor to want to share in the fruits of a profitable enterprise (just as in the case of leased land).

At the same time, it is essential to note that Calvin did not permit lending to take place without restrictions. Keeping the laws of justice and love in mind, the reformer established a variety of rules with respect to the practice of lending. (Birkás, 2014) At the beginning of the 20th century, the Calvinist approach was carried further by Max Weber in his work *The Protestant Ethic and the Spirit of Capitalism* (*Die protestantische Ethik und der Geist des Kapitalismus*), the principal – and universally familiar – hypothesis of which is that the Protestant work ethic played an important role in the development of the modern capitalist economic system. Although the spirit of capitalism quickly spread throughout Europe, thousands of years of prejudice against banks and bankers persisted and still survives today.

Religious, ethical and crude economic approaches to the charging of interest, together with manifestations of populism subservient to prevailing fashion, have exercised an influence on the reputation of banking services in the course of history which has regrettably persisted, and even become imperceptibly ingrained in the common way of thinking. With the evolution of the legal system, the battle against social stigmatization was embodied in the defence of fundamental and personality rights, although this legal institution, aside from treating the acute symptoms, is unable to nip prejudice in the bud as it smoulders or breaks to the surface.

The strengthening or awakening of prejudices reflects the given conditions in society, intensifying in times of crisis for psychological and sociological reasons, and diminishing in periods of prosperity. The escalation of prejudices – and the sometimes more serious manifestations thereof – is even more common in times of unresolved social crisis. In this regard, a more favourable tendency is apparent these days, since it is almost “politically trendy” to fight against prejudice. Football has seen a tolerance campaign for years (“No to racism!”), which thanks to sports psychology has been able to convey its message effectively across broad swathes of society.

Prejudice is not an inner attribute with which a person is born. Prejudice is an emotionally motivated process which evolves under the influence of social interaction and the given social milieu. Often prejudice does not disappear even despite an individual’s empirical experiences. Among the main factors triggering prejudices we can list ethnic origin (Arab, Jew, Gypsy, black/white), religion (not of the majority), political views, personal wealth (tax-dodgers), and usury (banks).

The European liberation movements of 1848 were precipitated by a way of thinking and ideology that went beyond the conventional, being more open and less burdened with prejudice. The thinking of Hungarian writer Ferenc Kölcsey brought a new interpretation that transcended barriers: “Every career is honourable if it illuminates your homeland!” For their part, based on social expectations generated by economic growth, Christian communities further advanced teaching with regard to interest, interpreting the Bible’s message on the subject.

"Some people question the charging of any interest on loans, but several times in the Bible we see that a fair interest rate is expected to be received on borrowed money (*Proverbs* 28:8; *Matthew* 25:27). In ancient Israel the Law did prohibit charging interest on one category of loans – those made to the poor (*Leviticus* 25:35–38). This law had many social, financial, and spiritual implications, but two are especially worth mentioning. First, the law genuinely helped the poor by not making their situation worse. It was bad enough to have fallen into poverty, and it could be humiliating to have to seek assistance. But if, in addition to repaying the loan, a poor person had to make crushing interest payments, the obligation would be more hurtful than helpful." (http://www.gotquestions.org)

It can be seen that prejudice against banks, and against those carrying out banking activity, has roots that go back thousands of years, and it may be exactly for this reason that the banking sector became such an easy scapegoat during the economic crisis of 2008–2011. The shifting of responsibility for the crisis unilaterally on banks led to the disadvantageous discrimination manifested in, among other things, the overtaxation of banks.

Political considerations supposedly lay behind this, such as the potential to increase electoral popularity to the detriment of a banking sector otherwise already burdened by prejudice. Scapegoating of this kind is anyway a generally successful way of increasing political support, since a voter with an attitude inclined toward prejudice can easily identify with attractive-sounding ideas that play on that prejudice. Perhaps it is no accident that in recent years the political parties that have moved to the forefront or solidified their positions are precisely those whose leading figures have espoused these ideas.

It is worth mentioning, at the same time, how the media – which otherwise takes a firm stand against prejudice – has proven muted in this process, failing to defend the heavily prejudiced-against banking sector.

The principal breeding ground for almost every type of prejudice is ignorance. This is true in the case of established prejudices against the banking sector, indeed perhaps to an even greater extent. We should not be surprised, since the social and religious roots of anti-banking prejudice go back thousands of years. In addition, only those preparing for an economic career receive education in finance, with consultants and experts ensuring that the distance is maintained by mystifying knowledge of finance and banking. We will touch upon the fundamental lack of financial knowledge and literacy at the societal level in the course of presenting surveys on this topic.

Society looks on the banking sector as a merciless tyrant. Perhaps it can be best compared to the tax man, to whom individuals must also make exact payments even when they do not like paying tax. Legally based or dispositive contractual discipline provides the basis for maintenance of financial services in the long term. Society, however, is not selective; either people fulfil all their obligations in a disciplined way, or they always look for alternative solutions. Experience shows, for instance, that discipline in loan repayment does not crucially depend on the debtor's solvency, but on their social milieu. Nothing else explains why two neighbouring countries of similar cultural, income and employment backgrounds, similarly mixed in terms of the origins of their populace and historically parts of the same monarchy for a thousand years, should display a sevenfold discrepancy in terms of non-performing retail mortgage loans (2016/06: 18.52% in Hungary, 2.53% in Slovakia). The same can otherwise also be observed within Hungary in the case of non-performing loans, when these proliferate with almost mushroom-like density across a region. In this instance, it is not growing unemployment that is the main trigger of the phenomenon, but the “popular belief” that if political forces already discriminate against banks in their public statements and have an inclination to impair banks’ rights, then non-payment will carry no adverse consequences. This syndrome spreads from neighbour to neighbour and outgrows itself locally.

A lack of discipline in repaying loans does not only appear with relation to banks, however, but also infects other areas. Those who don’t pay off their loans typically don’t pay for their public utilities either, and nor do they pay their taxes punctually. In this way indiscipline spirals into every area of life, so that breaking the rules and violating contracts becomes almost the norm, and can even disrupt the economy.

This connection is evident for those that recognise the social correlations. For this reason it is important for society, through economic and financial education, to reach a level where there is no fertile ground for populist political messages couched in cycles of only 4–5 years. One of the bitter lessons of the economic crisis of 2008–2011 is that once social prejudices break loose, it is difficult to set the economy back in motion successfully. Anarchic conditions that take shape within a short space of time cannot be so quickly undone. Consequently, the economy and society end up paying a price many times over for the damaging effects brought about by irresponsible populist sloganeering.

A historical overview is important from the point of view of financial literacy because attitudes and value judgements that have evolved over a long period fundamentally determine the context of financial education, as well as the broad scope which financial training must cover so that financial services can operate that work well for society while also serving the development of the economy. To achieve this, however, means overcoming centuries of prejudice and misconceptions, all the while ensuring that a set of values takes shape that facilitates optimal operation.

Trust in the banking sector

Mutual trust is what the banking profession is based on. In terms of the placement of money, bank-client relationships allow for two directions. In one direction the bank accepts a deposit from the client, and in the other the bank grants a loan to the client. Both directions rely on trust invested in the other party, since, in the future, the client who made the deposit wishes to regain his or her money with interest. For this, he or she will look for a well-capitalized bank with a good reputation in the market i.e. one that the general public considers to be a safe and dependable institution with liquidity over the long term, where personal contact and/or electronic communication is consistently reliable, and where the bank offers investment opportunities holding out the promise of a yield and risk acceptable to the investor. As for the other direction, the bank's management handles the received deposits and the bank's capital well if it manages to do so in a way that promises positive returns. In the case of a loan, this means that the client has a business plan and business management skills offering reasonable assurance that he or she will repay the loan in the future. Repayment risks are mitigated through the use of collateral.

The bank's capital provides the collateral for client deposits. Each country has a minimum capital requirement (usually amounting to millions of euros). The bank's management and employees represent business management know-how. Professional experience and university education are prerequisites for the appointment of a bank leader, and banking supervision makes sure that these rules are enforced. Keeping market risk low (to guarantee that the members of the banking sector maintain their stability and liquidity positions) is ensured through international, EU and local regulations. Of all the regulations applying to the banking sector the Basel requirements are the most well known.

The Basel Convention was adopted in 1988 and set the minimum capital requirement for internationally active banks. The Basel II accord set the operational risk capital requirement, supervisory processes and rules for data disclosure. Basel III (introduced in response to the economic crisis) increased the level and quality of capital as well as liquidity requirements. While Basel III will not be fully in force for another three years, its "successor" already ranks high on the list of things that keep global bank CEOs awake at night. As a minimum, rules concerning risk weighted assets (RWA) and total loss-absorbing capacity (TLAC) requirements are likely to be changed and implemented.

History tells us that trust is one of the most essential pillars of a sound banking system. However, trust requires the simultaneous presence and fulfilment of several factors and conditions: positive performance in the past, good reputation, stability, profitability, solid ownership structure, capitalization above the minimum requirement, reliable operation, provision of good quality services, quality contact with clients, and sufficient visibility in the market. While building up trust takes years and often decades, it can be lost in a matter of days (Narayan, 1952). In the banking sector, the loss of trust typically leads to certain bankruptcy and the winding up of the institution.

A crisis of confidence in the sector usually arises during economic troubles or as a consequence of these. Traditionally, the general public is suspicion of the banking sector and tends to label it as the main culprit solely responsible for the ensuing hardship. Negative perceptions are compounded when the banking sector is seen as having triggered the crisis and contributed to a budget deficit or losses affecting a larger group of clients. Now and then, some influential politicians will try to gain popularity by blaming the sector for problems unrelated to banks, in some cases leading to the downfall of several institutions.

On September 28, 2015, at the 7th International Banking Conference in Milan, Sabine Lautenschläger, a member of the ECB Executive Board, gave an accurate summary of all the issues related to trust and relevant measures.

„How can bankers regain the trust that was lost during the crisis?

How can the banking sector be reintegrated into society?

There is no doubt that banks, bankers and the whole industry are experiencing one of the worst crises of confidence ever. The turmoil of 2008 and 2009 played a major role in this loss of public trust, but the problem did not end after the most acute phase of the crisis. Even seven years later, confidence in the banking sector is still very low.

Numerous scandals, like the manipulation of LIBOR rates, large-scale tax evasion, the fraudulent behaviour of rogue traders, misconduct in the selling of mortgages, and large taxpayer bailouts of banks, have reinforced the perception that wrongdoing is widespread in the banking sector.

But mistrust is not only confined to banks themselves. Investors and clients also have less confidence in the correct functioning of the banking sector and in the ability of supervisors and regulators to prevent excessive risk-taking.

We should worry about this loss of trust in the banking sector:

- It impairs the proper functioning of banks to reallocate resources.
- It hampers growth.
- It leads to instability and costly crises.

In a recent paper, Gennaioli et al. [1] illustrated the role that trust plays in banking by comparing finance to medicine. Banking, is a service like healthcare, in which “transactions” take place between two parties that differ in terms of information, knowledge and technical competence. Patients put themselves in the hands of their doctor, and investors, like patients, would like to be in *good* hands and not be taken advantage of.

But how can trust in the banking sector be restored? Who are the key players in this process? Is it enough to reform the regulatory and supervisory framework, as we have done in recent years?

Banks, intermediation and trust

Let me start by using a simplification of the activities of banks to explain why it is worthwhile investing in regaining trust. Traditionally, the core activity of a commercial bank is to take deposits from individuals who have a surplus of resources and to allocate those resources to productive activities. Banks thereby perform three main functions. First, they provide payment and settlement services to households, entrepreneurs, companies and other financial institutions. Second, they enable savers to reap the full benefits of long-term investments, while still being able to access liquidity when needed. Third, they assess and monitor the creditworthiness and payment behaviour of borrowers more efficiently than an individual investor could.

Through these activities, banks reduce the inefficiencies caused by asymmetric information and incentive problems between those who save and those who borrow. It is mainly via this channel, that banks create *value* and contribute to economic growth.

However, even though banks assess and monitor borrowers' creditworthiness, savers may still be concerned about whether banks – and their managements – have the necessary skills and will make the required effort to protect their savings. Asymmetric information and incentive problems are still present, but arise at new, different levels: no longer between savers and borrowers, but between savers, bankers and supervisors.

In the relationship between banks and their creditors, incentive conflicts may arise between managers on one side (who set the bank's strategy, make investment decisions and monitor the performance of investment projects and the payment behaviour of debtors) and shareholders and debt holders on the other side (who provide the bank's funding and who bear the ultimate risks and receive the benefits of the bank's activities).

Information problems may also occur among banks that are linked by mutual business relationships or collective vulnerabilities to systemic events.

Asymmetric information and incentive problems can be addressed through contracts, institutions and appropriate regulatory and supervisory frameworks. But this is a rather abstract and idealised view. In reality, more is needed: trust is needed.

The medical analogy is a handy way to illustrate this. Patients can always sue doctors for malpractice. They could always enforce the "contract" with their doctor. However, no patient will ever consult a doctor whom he does not trust, even though he can sue him.

The same applies to banking. In general, creditors will not deposit money in a bank whose integrity and soundness they do not trust.

Shareholders can set up remuneration schemes to incentivise managers whose activities they cannot monitor full time. But shareholders also need to trust their managers, because not all of their activities are perfectly contractible and, even if they were, it could be difficult and time-consuming to enforce the incentive contract in court.

At this point, one could interject that, while trust may have been essential for banking in the past, this is no longer the case today. Our economy and society have undergone dramatic changes in recent decades, which have also affected banks.

Innovation and technological progress have reduced the need for trust in some situations. Computerisation has allowed banks to use data-driven applications rather than rely on expert judgement for the evaluation of creditworthiness of borrowers or the pricing of financial products.

However, banks and their business have become much more complex than they used to be, which increases the asymmetry of information and, hence, the need for trust. For example, it is not now uncommon for banks now to have multiple parent-subsidiary structures operating in different jurisdictions across the globe. Some banking products have become so sophisticated that most people, even some bankers, no longer fully understand them. By the way, I expect every CEO or Board member to do without products which they do not understand. Today, banks are more complex to manage harder to monitor and their activities are more difficult to understand than was previously the case, and the asymmetric information and incentive problems I mentioned earlier are more prominent than ever.

In short, trust is and has always been essential for banks to carry out their activities, foster economic growth and add value to society. *Banking is and always has been trusting*.

What can be done to restore trust?

Given the currently low level of confidence in, and within, banks, what needs to be done to rebuild trust?

The role of regulatory reform

First, whose job is it to regain trust?

In the aftermath of the crisis, significant changes have been made in the regulatory and supervisory framework. Reforms of capital and liquidity regulation, risk management, governance and resolution regimes have been introduced. Moreover, consumer protection has been enhanced. The regulatory framework now has a better and broader base, and is less vulnerable to arbitrage.

While much has been achieved, I would like to highlight one piece of work in particular. Last year, the Financial Stability Board published a set of guidelines on supervisory interaction with banks on risk culture. The guidelines are aimed at assisting supervisors in their assessment of risk culture by listing a number of indicators or practices that can be indicative of an overall sound and well-balanced approach. These include an appropriate “tone from the top” within a bank and other key factors, such as accountability, effective internal communication, the existence of challenge mechanisms within the decision-making process, and incentives for employees.

Supervisors themselves have also changed since the crisis. They are now stricter, more pro-active and assess banks in a much more holistic way. Topics such as governance, remuneration and risk appetite are among the key priorities on every supervisor’s agenda this year.

In the Single Supervisory Mechanism (SSM) for example, we are in the final stages of a thematic review of governance and risk appetite in the 123 institutions directly supervised by us which will feed into this year's assessments of the capital and liquidity adequacy of banks.

Our initial findings indicate that a number of banks, while meeting national requirements, do not comply with international best practices with regard to governance. Our key observations include examples of power concentration in individual board members (e.g. holding multiple offices or chairmanships within the same group), a lack of separation between a bank's risk and audit functions, information asymmetries among board members, and instances where the board simply does not take enough time to discuss and reflect on individual issues. It is also apparent that some banks are still in the early stages of implementing their risk appetite framework and therefore still have a lot of work to do to ensure its consistent application throughout the entire organisation.

All of these issues reduce the quality of decision-making and risk awareness within a bank and can obscure or even encourage malpractice. Therefore, we *will* require banks to follow up on these findings.

But are the efforts of regulators and supervisors enough? Can trust be rebuilt simply by having better and more credible rules?

Our finance-medicine analogy suggests that the answer to these questions is no. It is the doctor who holds the key to earning the trust of his patients. Likewise, rebuilding trust in the banking sector requires the active engagement of bankers and their stakeholders. Regulatory and supervisory reforms are necessary, but not sufficient to restore people's trust in banks.

My view is that, while regulatory reform and supervisory action were certainly necessary to lay the foundations on which banks can restore trust, regulators and supervisors are not the key players in this process. The main effort to regain trust must come from bankers, in particular from banks' management and their boards as the tone from the top as well as the accountability of banks' top management are key for risk culture and staff's behaviour. Without their active effort, society will not start to trust again.

The necessary process will be laborious and time-consuming; and it will not be one measure or action that does the job, but rather a complex mixture of governance, risk appetite, risk culture and behaviour from the top.

The role of banks and their stakeholders in restoring trust

So what must bankers do to rebuild trust?

First, bank's management should develop viable business models with a clear long-term perspective. Many of the recent crises have been the consequence of banks targeting high, but risky, short-term gains rather than pursuing lower, but more stable, long-term returns. Banks should refocus on their core functions:

- providing valuable investment opportunities to savers, while shielding them from liquidity risk, and

- providing funds to those who need them, while assessing and monitoring their creditworthiness.

Financial intermediation is not simply a way to garner revenues; it also supports economic growth and thus, ultimately, provides an important service to society.

Significant changes in the economic environment in recent decades have diverted banks from these core functions. It seems that the combination of an increased range of investment opportunities and funding sources, a trend towards more liberal regulation, and an increasingly competitive environment caused banks to reshuffle their priorities towards maximising short-term corporate and often also personal gain. The change in banks' business models from "originate to hold" to "originate to repackage and sell", which was the proverbial spark in the tinder box that set off the financial crisis, can be seen as a prime example of losing sight of the goal of maximising long-term value.

Second, a bank's management and board must have a sense of responsibility for developing the bank's individual risk culture, thus enabling it to deal with risk in a way that supports this long-term business perspective and fosters transparency and accountability.

Every bank needs a strong cultural base, which should embody the bank's essence and aspirations and embrace its role as a profit-oriented organisation without neglecting its relevance for the well-being of national economies and for the finances of both individuals and corporations.

- This strong cultural base should serve as a shared value framework throughout the organisation.
- On top of these foundations, every bank needs clear risk-taking policies, allowing it to reach its business objectives, while ensuring that risk-taking activities beyond the institution's risk appetite can be identified and addressed in a timely manner.
- To complement this, there must be clear governance arrangements defining processes and responsibilities for decision-making, risk management, control and audit.
- Lastly, a bank requires well-functioning communication mechanisms and IT systems to link the bank's decision-making, risk management and control organs together, to convey information to where it is needed, and to help create awareness and transparency about the bank's objectives, policies and values throughout the organisation.

Changing an existing culture and the way an organisation thinks about its business is clearly a major challenge. In particular, at a time when the banking sector as a whole is having to comprehensively rethink the values it embodies and the culture it lives. [2] Although some progress has been achieved recently, much more is still needed. In this context, I welcome the continued initiative of policy-makers to stimulate further progress in this area. For example, in May this year, the G-7 finance ministers and central bank governors urged the Financial Stability Board to begin developing a bankers' "code of conduct" to complement the existing guidance.

Third, banks' senior management and boards have to create adequate incentive schemes, including remuneration policies, to promote long-term perspectives within their organisation. We have witnessed too many scandals over recent years, too many cases of misconduct where responsible parties were not sufficiently held accountable. We have witnessed banks cooperating only reluctantly in criminal investigations, and we have seen interest groups rejecting outright any attempt to reform remuneration in the banking sector.

Regaining trust will not be easy. Bank managers must convince the public that they will reward socially beneficial behaviour, while unacceptable behaviour will be credibly sanctioned, up to the top. [3] Most importantly, people need to believe that managers will be truly responsible for the conduct of those who report to them.

To achieve a turnaround in public sentiment, those working in banks must believe in the value of sustainable business models and ethical behaviour. The tone from the top is key in this endeavour – the message must be that not everything that is legal is also legitimate and that the bank is only interested in legitimate business.

This may require a considerable revision of human resources policies, too.

- For a start, senior management could think about introducing new recruitment and training guidelines that indicate what sort of talent and personalities should be hired and how the bank's values should be taught to employees.
- A well-balanced combination of monetary and non-monetary incentives should be in place. Staff should have reasonable compensation and development options aligned with the behaviour they exhibit in implementing the bank's desired values and culture. Remuneration, performance evaluation and promotion systems should be calibrated in such a way that they reward client orientation, long-term value creation and sound risk management practices rather than short-term revenues. One possibility could be to extend even further the existing claw-back times for bonuses to discourage unacceptable behaviour, possibly up to seven years.
- Staff should face clear rules on responsibility, liability and integrity and be subject to proportionate follow-up or disciplinary measures in the case of infringements.

Last, but not least, the expectations of bank shareholders are critical and key to re-establishing trust. Their demand for higher returns puts pressure on banks and induces them to embark on risky business activities. Hence, efforts to restore trust cannot be successful without a corresponding change in attitude among shareholders. They must understand that there is no such thing as a "free lunch". Properly adjusting for risk, shareholders may actually be better off when banks behave cooperatively and achieve a high level of trust.

The role of bankers' self-interest

Having identified possible actions bankers can take to restore trust, an important question remains. Why should bankers ever take such actions? Is it in their own interest?

As I stressed before, trust is essential for the functioning of the banking sector. Without trust, banks cannot function properly. This not only has negative consequences for the rest of the economy, but also negatively affects banks themselves.

There are several channels through which a lack of trust negatively affects banks. First, it is a potential root cause of crises. Crises usually lead to a significant and often long-lasting contraction in bank profits, as can be seen, for instance, from the large drop in the S&P 500 index for the banking sector. Moreover, they are usually followed by an "aggressive" regulatory response to constrain banking activities.

Second, a lack of trust negatively impacts on the relationship between regulators and banks. The interaction tends to become more adversarial. Regulators become less willing to listen to bankers and to take their views on how to do business into account.

Third, a lack of trust in some banks and bankers usually translates into a negative sentiment towards the entire industry. This, in turn, has negative implications for business. Customers may leave, and it is more difficult to recruit talent. But this negative sentiment not only has repercussions for banks' business prospects, it also affects the social standing of bankers, whose image is often tarnished in society.

Concluding remarks

Let me conclude.

The recent crisis is a stark reminder that *banking is trusting*.

The dramatic changes in the banking environment brought about by financial innovation and technological progress have not diminished the role of trust in banking. Any lack of trust significantly impairs the functioning of the banking sector and prevents banks from contributing to economic growth. A lack of trust also negatively affects banks' business and profitability. It is in the banks' *collective* interest to restore and preserve a high level of trust in, and within, the banking sector.

Rebuilding trust is a long and complex process. It certainly requires effort on the part of regulators and supervisors, and a lot has been achieved there.

But, ultimately, as the analogy with the trust between doctors and patients makes clear, most of the heavy lifting will have to be done by the banks – their senior managements, boards and shareholders – themselves. There is plenty that they can do and should be doing." (Lautenschläger, 2015)

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[1]See Gennaioli, N., Schleifer, A., and Vishny, R.W. (2015), "Money Doctors", *Journal of Finance*, Vol. 70(1), pp. 91-114.

[2]For a discussion on the role of culture in the financial industry and its interaction with monetary incentives in shaping behaviours, see Lo, A.W. (2015), "The Gordon Gekko Effect: The Role of Culture in the Financial Industry", *NBER Working Paper*, No 21267.

[3]On the importance of “cleansing” the sector of adverse practices and behaviours in order to “reintegrate” banks into society, see Hartmann, P. (2015), “Financial Reforms in Transition”, in Evanoff, D., Haldane, A. and Kaufman, G. (eds.), *The New International Financial System: Analyzing the Cumulative Impact of Regulatory Reform*, Hackensack, NJ: World Scientific Publishing.

The role of the financial sector in the economy

Financial literacy also assumes a well-founded understanding of the role of the financial sector in the economy. Nevertheless, most people have biased and incomplete knowledge about the financial sector's role. In this chapter we will attempt to offer a primer essential to an understanding of the role and function of the sector.

The modern economy is composed of three sectors: the primary sector (agriculture, fishing, and extraction such as mining), the secondary sector (approximately the same as manufacturing), and the tertiary sector (also known as the service sector or the service industry). Recently, experts are distinguishing also a quaternary sector reflecting on the rapid development of information technology-related services. For a long time the economy was dominated by the primary and the secondary sectors, while services played but a secondary role. The ascent of the tertiary sector started when the rapid development of transport and communication facilitated worldwide trade and the specialisation of professions in the 19th century. The tertiary sector provides services that produce immaterial goods "serving" and supporting the material production in the primary and secondary sectors and ensures society's day-to-day operation and well-being. For example, such immaterial goods include warehousing, transport services, insurance services, teaching, health care and advertising services. They generate value, but the output is not physically tangible.

A distinction is usually made between business and social services. Business services include transport, telecommunications, trade, financial services, as well as tourism. The scope of social services covers the education system, health care, and public administration. The latter includes those organizations that enable the functioning of the state: the state administration (e.g. ministries), the army, the police and the judiciary.

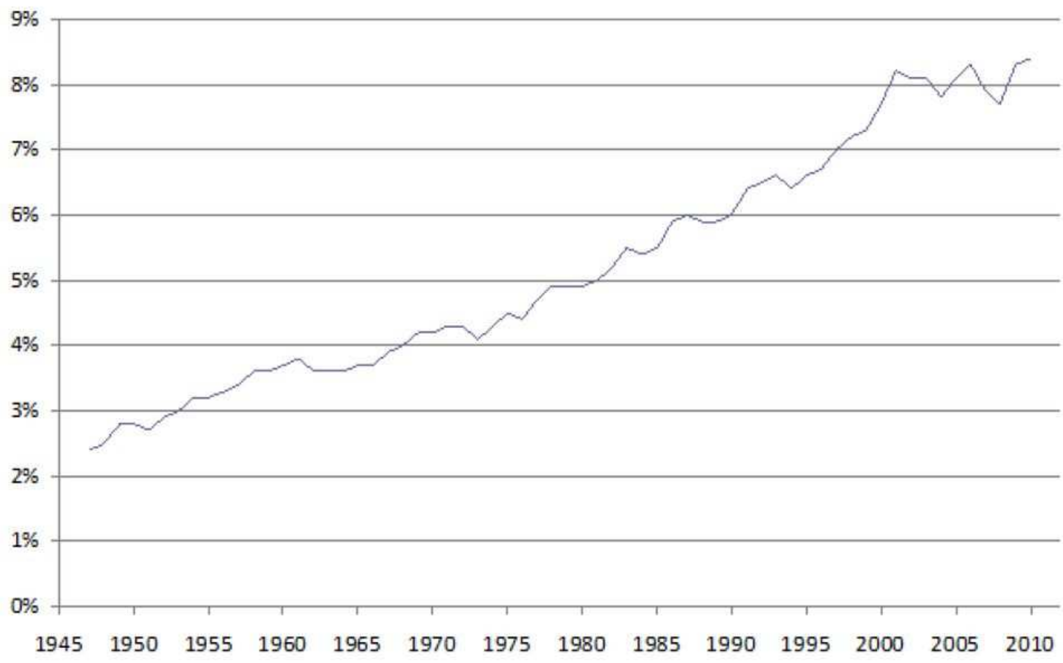
The role of these services (not producing material goods) was underappreciated for a long time by economists. However, these days, in an era of fierce global rivalry competitive advantage can be achieved only with high quality process management and high quality services. A country, for example, can achieve success in material production only if it possesses high-quality infrastructure and its tertiary sector is widespread and powerful. Thus, the output of the tertiary sector is a value-creating commodity.

The tertiary sector has rapidly expanded in the past few decades and became the dominant economic branch in developed countries, both in terms of value creation and employment. In most developed countries the share of gross value added produced by the service sector varies now between 66 to 79 per cent. The tertiary sector has a similar share in total employment as well.

Financial services play a considerable role in the tertiary sector. According to ECB and Eurostat data (see Figure 2) the share of financial corporations in the period of 2002-2015 amounted to an average of 4.9% of the total gross value added. The highest share by financial services was reached in the UK and Luxembourg. The UK's financial sector for example generated 9% of total British value added in the last quarter of 2008; two decades earlier this share was only 5%.

Figure 1 shows the rate of the US GDP produced by the financial and insurance sectors. Since the end of WW2 their share has increased from 2% to 8%.

Figure1. Value added of the finance and insurance sectors in the US (% of GDP)



Source: Bureau of Economic Analysis

Figure 2. Shares of sectors in key aggregates for the euro area, 2002-2015 average

	Gross value added (at basic prices)	**Net natio-nal income**	**Gross disposable income**	**Net disposable income**	**Gross saving**	**Net saving**	**Gross fixed capital formation**
Households	22.8%	81.6%	64.7%	72.8%	38.9%	87.4%	29.4%
Non-financial corporations	57.7%	5.1%	11.4%	2.0%	50.1%	30.8%	53.9%
Financial corporations	4.9%	2.0%	2.4%	2.3%	7.4%	25.9%	2.2%
Government	14.6%	11.3%	21.6%	22.8%	3.6%	-44.2%	14.5%

Source: ECB and Eurostat

The increasing weight of financial services in generating value added was accompanied by striking growth of banks' balance sheets. For the US, there has been a secular rise in banks' assets from around 20% to over 100% of GDP. For the UK, a century of flat-lining at around 50% of GDP was broken in the early 1970s, since when banks' assets in relation to national income have risen tenfold to over 500% of GDP. This century has seen an intensification of this growth. According to data compiled by the Banker, the balance sheets of the world's largest 1000 banks increased by around 150% between 2001 and 2009. In cross-section terms, the scale of assets in the banking system now dwarfs that in other sectors. Looking at the size of the largest firm's assets in relation to GDP across a spectrum of industries, finance is by far the largest. All these figures indicate that through leveraging banks' economic impact exceeds by far their share in generating gross value added.

What is the role of the financial sector in the economy?

Banks' core business consists in intermediating between those who have financial means at their disposal, and those who are in need of funds. The first category of people lends money to the bank that, in turn, uses it to fund the second category. As a classic TV ad of the largest Hungarian bank argued:

> "Van, aki azért jön hozzánk, mert van pénze. Van, aki azért jön hozzánk, mert nincs pénze..."[8]
>
> (*"Some people come to us because they have money. Some come to us, because they do not have money..."*)

In the financial system funds flow from those who have surplus funds to those who have a shortage of funds, either by way of direct, market-based financing or by indirect, bank-based finance. The former British Prime Minister, William Gladstone, expressed the importance of finance for the economy in 1858 as follows: "Finance is, as it were, the stomach of the country, from which all the other organs take their tone." (https://history.blog.gov.uk/2012/08/01/prime-ministers-and-their-chancellors/)

Like an organ of the human body, the financial system calls most attention to itself when it malfunctions. But in normal times, does the financial system provide the needed capital throughout the economy? Or is it like the appendix, doing little when healthy but devastating when ill? Since the truth is probably somewhere in between, how can we calculate the contribution of finance to a modern economy? In particular, how much of the income received by financial institutions is compensation for actual services provided to their customers and how much is merely for taking on risk, such as funding risky loans with short-term borrowing?

According to cross-country comparisons, individual country studies as well as industry and firm level analyses, a positive link exists between the sophistication of the financial system and economic growth. While some gaps remain, it is safe to say that the financial system is vitally linked to economic performance. Nevertheless, economists still hold conflicting views

[8] Rónai Veronika: Traubisoda, bontott csirke, Skála kópé, Fabulon… – Reklámfilmek a gulyáskommunizmusban, PRopaganda a mai médiában – 2004

regarding the underlying mechanisms that explain the positive relation between the degree of development of the financial system and economic development.

Some economists simply do not believe that the finance/growth relationship is important. For instance, Nobel laureate, Robert Lucas, asserted in 1988 that economists badly over-stress the role of financial factors in economic growth. Moreover, the prominent British economist, Joan Robertson, declared in 1952, "where enterprise leads, finance follows" (Rajan-Zingales). According to this view, economic development creates demands for particular types of financial arrangements, and the financial system responds automatically to those demands.

Other economists, however, strongly believe in the importance of the financial system for economic growth. They address the question of what an optimal financial system should look like. Overall, the notion seems to develop that the optimal financial system, in combination with a well-developed legal system, should incorporate elements of both direct, market- and indirect, bank-based finance. A well-developed financial system should improve the efficiency of financing decisions, favouring a better allocation of resources and thereby economic growth.

Thereby, the financial system provides the basis for a continuous realignment of the economy needed to underpin growth. In countries with a highly developed financial system it can be observed that a greater share of investment is allocated to relatively fast-growing sectors. Looking back to the Industrial Revolution, it can be ascertained that England's financial system did a better job in identifying and funding profitable ventures than other countries in the mid-1800s. This helped England enjoy comparatively greater economic success.

What are the specificities of financial institutions and what purposes do they serve?

What distinguishes financial institutions from other firms is the relatively small share of real assets on their balance sheets. Thus, the direct impact of financial institutions on the real economy is relatively minor. The indirect impact of financial markets and institutions on economic performance is, however, extraordinarily important and is much more influential as it follows from their share of real assets or from their share in gross value added. The financial sector mobilizes savings and allocates credit across space and time. It provides not only payment services, but also enables firms and households to cope with economic uncertainties by hedging, pooling, sharing and pricing risks. An efficient financial sector reduces the cost and risk of producing and trading goods and services and thus makes an important contribution to raising the standard of living.

The financial sector can improve both the quantity and quality of real investment and thereby increase income per capita. Efficient financial markets require a solid framework of laws, conventions and regulations. But most of all, an efficient financial system requires trust[9]. Confidence encourages investors to allocate their savings through financial markets and institutions rather than to buy non-productive assets as a store of value. Such confidence can be fostered by an appropriate regulation of institutions and markets to ensure users of

[9] In a separate chapter of this book the importance of trust is explained in full detail.

financial services that they will receive fair treatment. The challenge is to foster a static and dynamically efficient financial system while maintaining sufficient regulatory oversight to promote confidence in the safety and soundness of the financial system.

Finance serves three main purposes:

1. **Credit provision**. Credit fuels economic activity by allowing businesses to invest beyond their cash on hand, households to purchase homes without saving the entire cost in advance, and governments to smooth out their spending by mitigating the cyclical pattern of tax revenues and to invest in infrastructure projects.
2. **Liquidity provision**. Businesses and households need to have protection against unexpected needs for cash. Banks are the main direct providers of liquidity, both through offering demand deposits that can be withdrawn any time and by offering lines of credit. Further, banks and their affiliates are at the core of the financial markets, offering to buy and sell securities and related products at need, in large volumes, with relatively modest transaction costs.
3. **Risk management services**. Finance allows businesses and households to pool their risks from exposures to financial market and commodity price risks. Much of this is provided by banks through derivatives transactions. These have gotten a bad name due to excesses in the run-up to the financial crisis but the core derivatives activities provide valuable risk management services.

Many argue that the financial system grew overly large in the bubble period and, despite deleveraging, remains too large to this day. While, indeed, some of the activities that took place in the bubble period involved taking on excess amounts of risk, it is extremely hard to determine the right size of the financial system based on well-grounded economic theories. In truth, it is very difficult to judge the right size of almost any industry and attempts at the use of central planning and other mechanisms to correct assumed problems of this nature have usually failed.

Financial systems facilitate risk sharing by reducing information and transaction costs that arise from an information asymmetry between borrowers and lenders. If there are costs associated with the channelling of funds between borrowers and lenders, financial systems can reduce the costs of holding a diversified portfolio of assets. Intermediaries perform this role by taking advantage of economies of scale, markets do so by facilitating the broad offer and trade of assets comprising investors' portfolios.

In credit markets an information asymmetry arises because borrowers generally know more about their investment projects than lenders. A borrower may have an entrepreneurial "gut feeling" that cannot be communicated to lenders, or more simply, may have information about a looming financial risk to their firm that they may not wish to share with past or potential lenders. An information asymmetry can occur ex ante or ex post. An ex ante information asymmetry arises when lenders cannot differentiate between borrowers with different credit risks before providing a loan and that leads to an adverse selection problem. Adverse selection problems arise when lenders are more likely to make a loan to high-risk borrowers, because those who are willing to pay high interest rates will, on average, represent worse risks. The information asymmetry problem occurs ex post when only borrowers, but not lenders, can observe actual returns after project completion. This leads to a moral hazard problem. Moral hazard problems arise when borrowers engage in activities that reduce the likelihood of their loan being repaid. They also arise when borrowers take excessive risk because the costs may fall more on lenders relative to the benefits, which can be captured by borrowers.

The problem with imperfect information is that information is a “public good”. If costly privately produced information can subsequently be used at a lower cost by other agents, there will be inadequate motivation to invest in the publicly optimal quantity of information. The implication for financial intermediaries is as follows. Once financial intermediaries obtain information they must be able to obtain a market return on that information before any signalling of that information advantage results in it being bid away. If they cannot prevent information from being revealed prior to obtaining that return, they will not commit the resources necessary to obtain it. One reason financial intermediaries can obtain information at a lower cost than individual lenders is that financial intermediation avoids duplication of the production of information faced by multiple individual lenders. Moreover, financial intermediaries develop special skills in evaluating prospective borrowers and investment projects. They can also exploit cross-customer information and re-use information over time. Financial intermediaries thus improve the screening of potential borrowers and investment projects before finance is committed and enforce monitoring and corporate control after investment projects have been funded. Financial intermediation thus leads to a more efficient allocation of capital. The information acquisition cost may be lowered further as financial intermediaries and borrowers develop lasting relationships.

Financial markets create their own incentives to acquire and process information for listed firms. The larger and more liquid financial markets become the more incentive market participants have to collect information about these firms. However, because information is quickly revealed in financial markets through posted prices, there may be less of an incentive to use private resources to acquire information. In financial markets information is aggregated and disseminated through published prices, which means that agents who do not undertake the costly process of ex ante screening and ex post monitoring, can freely observe the information obtained by other investors as reflected in financial prices. Rules and regulation, such as continuous disclosure requirements, can help encourage the production of information.

Financial intermediaries and financial markets resolve ex post information asymmetries and the resulting moral hazard problem by improving the ability of investors to directly evaluate the returns to projects by monitoring, by increasing the ability of investors to influence management decisions and by facilitating the takeover of poorly managed firms. When these issues are not well managed, investors will not be willing to delegate control of their savings to borrowers. Moral hazard arises when a borrower engages in activities that reduce the likelihood of a loan being repaid. For example, when firms’ owners “siphon off” funds (legally or illegally) to themselves or their associates through loss-making contracts signed with associated firms.

Gains from an efficient financial system

As mentioned before, an efficient financial system facilitates the optimal allocation of resources. When financial institutions and financial markets are efficient, capital is allocated to the most promising projects, which are expected to offer the highest, risk-adjusted returns. In addition, a wide array of financial instruments allows savers and investors to achieve their preferred trade-off between risk and return. Confidence in the financial system encourages investors to allocate their savings through financial markets and institutions rather than to invest in non-productive assets in order to hedge against inflation or the risk of financial collapse. As noted above, such confidence requires not only some regulation, but also sufficient flexibility to adapt to market needs and opportunities.

Quantification of efficiency gains

What is the quantifiable gain to society from a movement to a more efficient system? How can this gain be measured? These questions are important, yet difficult to address. Efficiency has two dimensions: a static dimension and a dynamic dimension.

Static efficiency is achieved when funds move from ultimate savers to ultimate investors and risks are redistributed and/or hedged at minimal cost. Therefore, the relative efficiency of any system in static terms can be measured by the size of deviations from this minimal cost benchmark. The gains in efficiency that may result from alterations in financial structure can be estimated relative to the least cost producer as a proxy for the potential gain from the movement from one financial and regulatory structure to another.

Dynamic efficiency, on the other hand, refers to the flexibility with which the system adapts to changing market conditions and the needs of customers. Unlike static efficiency, however, measures of relative or absolute dynamic efficiency are difficult to define even in principle.

The most ambitious attempt to measure the gains from improving static efficiency has been undertaken by the European Commission. EC studies have attempted to measure both the direct and indirect effects of establishing a single market for financial services in which high-cost producers of financial services would be displaced by low-cost producers. The approach was to measure gains to consumers from presumed price reductions in a basket of 14 financial services that would occur once market integration was completed. It had been assumed that, after integration, prices in each country would fall about half way toward the average prices of the four lowest cost suppliers in the EU. The remaining price dispersion was assumed to reflect the idiosyncrasies of individual markets (and is roughly equivalent to the price dispersion for various financial services in the integrated US market). These direct benefits of improving the financial structure across the EC were estimated to be about 0.7% of the combined 1985 GDP of the then twelve member countries.

This measure of consumer gains is not necessarily equivalent to the net change in overall welfare. It neglects changes in the profits of producers, changes in the distribution of income and adjustment costs that will occur in moving from a less efficient to a more efficient financial system. Moreover, it assumes that competition among suppliers of financial services will be sufficient to reduce costs to the minimum feasible level.

The EC staff also performed a separate study to measure the indirect benefits of forming a single market in financial services. These indirect benefits stem from potential increases in national product from the lowering of interest rate spreads and prices for financial services. The study assumed that the price changes predicted by the other study would occur within one year and proceeded to estimate their impact on production through macro-economic simulations. The indirect benefits were estimated to be about 1.5% of the combined GDP of the member countries in 1985 – nearly twice the size of the estimated direct benefits. Together they represent substantial benefits to the real economy and an important mechanism to improve the economic well-being of citizens of the EU. The sum of the direct and indirect effects of enhancing the competitiveness of the financial sector – 2.2% of the combined GDP of the member countries in 1985 – is a very substantial proportion of the total estimated increase in the Community's economic welfare – between 4.3% and 6.4% of GDP – estimated by the Cecchini report[10].

Yet, in the long-run, the gains from a flexible financial system in which financial instruments and institutions adapt readily to the changing needs of savers and investors may be the most important aspect of efficiency. The benefits from enhancing the dynamic efficiency of the financial system to enable it to respond flexibly to changing market demands are likely to be particularly strong in an era in which macroeconomic volatility and technological change appear to be increasing. If the financial sector is not permitted to respond flexibly, real economic performance will decline. However, it is extraordinarily difficult to quantify the gains from improving dynamic efficiency, since it would involve placing a value on the option to respond flexibly to uncertain future events.

The potential benefits of a more flexible financial structure

As financial markets and products change, institutions must also change to be efficient and competitive. Thus an evaluation of the efficiency of a nation's financial structure should also include recognition of the need for flexibility in organizational form. Regulation should allow for such flexibility; it should not restrict a firm's choice of structure unless a clear public purpose is served. Firms which transact business within a very rigid organizational structure will be neither statically nor dynamically efficient. Thus, the flexibility of corporate form has important implications for the efficiency of the financial sector. Recently, there has been a

[10] A report by a group of experts, named after the group's chair, Paolo Cecchini, examining the benefits and costs of creating a single market in Europe i.e. the free flow of persons, goods, services and capital. It consists 16 volumes of forecasts for the Internal Market. The predictions as to the likely consequences of establishing such an Internal Market were based on questions put to 16,000 companies. The report titled "EUROPE 1992 – The Overall Challenge" was published on 13 April 1988.

clear trend toward large firms adopting a conglomerate structure to exploit potential efficiencies in the production and delivery of financial services. Over the past decade, these large financial conglomerates have performed not only the traditional intermediary and payment functions of depository institutions but also provided a much broader range of services often including investment banking services and insurance. Firms formed such financial conglomerates because shareholders or managers of financial firms believed that they might achieve synergies or economies of scope, which will make it more profitable to provide a range of services within an integrated corporate group than to provide each service through a separately managed corporation.[11] These synergies may arise from two distinct sources: the production or consumption of financial services. The Great Financial Crisis however proved that conglomeration is not a silver bullet, and it may generate risks and losses that can exceed the realised benefits.

Economies of scale in production may be realized whenever the cost of producing a given mix of products jointly is less than the sum of costs of producing each product separately. Economies of scale are likely to be important whenever a significant fixed cost can be shared across products. It may also be possible to use distribution channels established for one product to distribute other products at slight marginal cost. In addition, information used to produce one product may be used to produce other products at very little additional cost. More broadly, if the existence or scale of output of one type of product affects the unit cost of another, then an integrated conglomerate firm may produce services at lower marginal cost than an autonomous, single function firm.

Despite the many plausible sources of economies of scale in the provision of financial services, empirical evidence on the existence of significant economies of scale is limited. The traditional literature, which focuses exclusively on deposits and loans in a cross-section of small banks, reports some evidence of economies of scale and scope. However, the relevance of this evidence for large financial conglomerates is questionable.

Who are financial service firms serving?

Financial service firms have traditionally focused on wealthy customers, but paid little attention to the poor because, by definition, the poor have limited assets. Informality, insufficient information, inadequate infrastructure and other barriers have reinforced the belief that serving the poor cannot be commercially viable, much less a driver of innovation. This attitude generated, on the one hand, suspicion and antipathy against banks in the general public and, on the other hand, inspired the establishment of mutual banks and insurers, as well as municipal savings banks aimed at serving less wealthy people.

New, lower-cost business models have begun to challenge this traditional approach relying, for instance, on innovations in technology and utilization of existing retail channels. The

[11] The formation of financial conglomerates may also be motivated by the expectation of achieving market power.

potential is high, as 2.5 billion adults, just over half of world's adult population, do not use formal financial services to save or borrow (Financial Access, 2009). A wide range of examples shows the power of information and communication technology to reduce distribution and customer service costs. Convincing and successful examples can be observed in some less developed countries: in India the village ATMs of Citibank and ICICI Bank, in South Africa the mobile transactions services of Wizzit and MTN Banking, in the Philippines the SMART Communications and Globe Telecom, in Zambia and the Democratic Republic of Congo Celpay, and in Kenya Vodafone and Safaricom. As a result of these efforts, the percentage of adults with an account increased between 2011 and 2014 from 51 percent to 62 percent according to Global Findex[12], the world's most comprehensive gauge of progress on financial inclusion. In particular, mobile money accounts in Sub-Saharan Africa are helping to rapidly expand and scale up access to financial services. Along with these gains, data also show big opportunities for boosting financial inclusion among women and poor people.

While great progress had been achieved in the developing countries, in high-income OECD states –several EU Member States among them – there are still approximately 60 million adults who do not use formal financial services, representing 8% of the total population in these jurisdictions. Building on technological innovations, legislative initiatives were launched to improve levels of financial inclusion and enforce paradigm changes in business practices in the EU. The basic bank account[13] now offers affordable services for storing money and paying without overdraft facilities or any in-credit interest. The most basic bank accounts provide a debit card, enabling payments in shops and online. As of mid-October, Hungary will introduce the basic bank account[14]. Typical target customers are retirees, whose monthly benefits are currently delivered by the postman. The account maintenance fee is capped at 1.5 percent of previous year's minimum wage (or HUF 1575 = EUR 5) but the needy will receive the basic account free of charge. A major obstacle is that in the most remote rural areas there are no ATMs and bank branches, so it will be difficult to get access to cash, and many local shops do not have POS-terminals. Thus, the benefits of technological development and inclusion efforts can be enjoyed only if adequate infrastructure is made accessible in every region.

[12] The Global Findex database, the world's most comprehensive database on financial inclusion, provides in-depth data on how individuals save, borrow, make payments, and manage risks. Collected by the World Bank in partnership with the Gallup World Poll and funded by the Bill & Melinda Gates Foundation, the Global Findex is based on interviews with about 150,000 adults in over 140 countries. See more at: http://www.worldbank.org/en/programs/globalfindex

[13] Directive 2014/92/EU of the European Parliament and of the Council of 23 July 2014 on the comparability of fees related to payment accounts, payment account switching and access to payment accounts with basic features, http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014L0092&from=EN

[14] Member institutions of the Hungarian Banking Association are offering voluntarily similar cheap accounts already since 2012. (See: http://www.bankszovetseg.hu/en/hasznos-informaciok/alapszamla-belepo-a-penzugyek-vilagaba-2) That this initiative has failed to dramatically reduce the number of unbanked people has two major reasons: (1) in rural areas the availability of electronic services (i.e. ATM, POS terminal) is low, (2) elderly people are averse to electronic services and are not sufficiently motivated to change their payment habits or attend training courses.

A significant share of the innovations in the financial services sector is originating from "outsider" technology firms, so called fintech companies. The technologies driving change in the next decade may well encourage a further blurring of the line between access, industries and applications. There is now a crucial opportunity for commercial financial institutions to become involved, particularly while banking regulation in many countries favours partnership, as opposed to facilitating the efforts of telecommunications, retail, and other firms to go it alone.

Another important change is that large commercial financial institutions are increasingly engaging in human capital development activities to expand economic opportunities directly (for instance, through financial and business management training for SMEs and financial literacy programs for individual clients) and indirectly (by supporting public education and leadership programs):

- Financial skills and other business training for SMEs. SME owner-operators may need training that goes beyond financial literacy to include basic business management and other skills. For instance, farmers raising eucalyptus in Brazil are typically new to the business and they are given substantial loans to help them plant and manage their farms. Banks and the Brazilian agricultural extension service are providing these clients with group and individual training in financial and environmental management, giving them the tools they need to manage those loans over the seven-year growing period of the eucalyptus.
- Financial literacy. Clients and potential clients with little exposure to formal banking may not fully understand fee structures or interest charges or even trust institutions with their money. As a result, commercial financial institutions undertake financial literacy programs at a variety of levels. Citigroup has provided general financial literacy education in the United States and abroad, focusing on topics such as responsible use of credit cards, using employee volunteers and paper- and web-based material. For instance, Citibank China, as part of a 10-year, $200 million effort, launched a comic book stressing the importance of sound financial judgment. Deutsche Bank provides financial literacy training specifically targeting the clients of microfinance institutions in which the company invests. Such programs strengthen local money management knowledge and skills, enabling communities to use financial services more effectively to expand their economic opportunities.
- Public education and leadership programs. Public education and leadership programs are common in the financial services sector. Because direct benefits to the individuals involved generally outweigh those to the firm, with business benefits accruing only indirectly and over the longer term, such programs are often housed within public or community affairs departments. For example, the Goldman Sachs Global Market Institute has helped the Aspen Institute to create the Africa Leadership Initiative (ALI), which brings young African professionals from around the continent together

to develop the leadership skills they need to tackle social and economic issues facing their countries. Twelve senior leaders from Goldman Sachs are selected to work with the young professionals in the program.

These examples demonstrate that the financial sector can do much (more) for the public. But to make full use of this potential it is also indispensable that the general public learn more about the real functions and capabilities of the financial sector as to demystify finance for all.

Financial knowledge

On the path to attaining financial knowledge and literacy (based on the previously summarized definitions), we propose the following ascending degrees:

- knowledge of simple financial concepts;
- financial knowledge and understanding of financial processes;
- ability to apply financial knowledge and acquired experiences;
- ability to reach well-founded and conscious decisions.

Based on the given living circumstances and challenges, we can decide which degree of literacy can be regarded as sufficient at the individual or societal level. Consequently, for example, at the societal level in countries with an undeveloped stock market background, we may be satisfied with the knowledge of fundamental stock market concepts. The taking out of long-term mortgages or business loans, however, demands an ability to reach well-founded and conscious decisions.

The expansion of financial knowledge and literacy has become inescapable today, since the traditional family model, as well as the methods of conducting family businesses or estates that evolved over the centuries, have gone through profound change in recent decades. Due to the falling numbers of children and the disparate nature of education of the younger generations in terms of both time and location, the family model where several generations live together is becoming obsolete. In this way, standards of literacy, knowledge and skills based on following and taking on the knowledge of parents is no longer sufficient for young people who often choose to pursue activities radically different from their parents, while often also living apart. The same is true for the conduct of family enterprises, since the use of various government subsidies and involvement of external sources of financing has become a natural and indispensable element of the further operation and advancement of small and medium-sized enterprises in developed welfare states. On the other hand, the evolution of technology and products utilized in the financial sphere is far more rapid today than the (otherwise already slowing) turn of generations, so that the body of knowledge passed on through elementary school education quickly becomes outdated and does not guarantee the up-to-date skills necessary for a variety of applications in the real world.

In teaching in schools, at the same time, we still frequently encounter a rigid adherence to familiar, tried-and-tested subjects of study, teaching materials and forms of education. This is understandable from the teachers' point of view, since in this way they are able to use preparatory materials and schematics from preceding years or decades again and again. In addition, it is essentially more convenient than preparing to successfully teach a new curriculum that is rapidly changing in content.

On the other hand, the adherence of educational administrators to a "tried-and-tested" curriculum and teaching schedule is also understandable because the body of specialised teachers and the system of teacher training are aligned with earlier evolved structures. It is clearly both difficult and time-consuming to alter these, since it means that either university instruction needs to be begun from scratch in a new, hitherto unfamiliar subject of study, with the promise that this subject will be available once there are enough teachers to teach it, or certain individual teachers must be retrained to teach in a new specialised area. We saw an example of the latter in the countries of Eastern Europe formerly within the zone of Soviet influence, when teachers of Russian language were quickly retrained and "sculpted" into teachers of English. The concomitant danger of such attempts, however, was that the proficiency or standards of English language teaching in these countries remained quite low.

Accelerated technological advancement and the universal spread of knowledge alike demand continuous development of the structure of studies and the curriculum. At the same time, teaching staff and educational administrators are not prepared for this challenge; indeed, they have little motivation in this direction. In a rapidly changing world, it is also open to debate whether we should teach something that appears to be new at any given time, but which later may no longer necessarily remain topical, or whether to place the emphasis on preparing to adapt to change as it occurs.

The importance of financial knowledge itself appreciates with social mobility, professional diversification within families and the growing role of self-reliance, since these mean the appearance of new, previously unfamiliar challenges that must be resolved. In today's economy, money has become both a global medium of exchange and measure of value. Not only can I value products from other parts of the world in terms of my own money, but also the value of my own life by means of my life insurance, and the consequences and costs of environmental pollution or changes in human health – or even the royalties on the growing volume of intangible assets (software or works of literature, music or art) – in the context of broadening responsibility and legal claims for compensation. The role of money today extends far beyond the traditional exchange and barter of goods (physical assets). For all this, however, it is necessary to master the management of money. The areas of knowledge of money today extend to its role as:

- a classic instrument of trade by barter;
- a short, medium or long-term savings instrument, a role which it typically fulfils through risk-bearing securities (bonds, equities, investment funds, etc.);
- a payment instrument (with which we can connect to the globalized world without restrictions on time and distance);
- a form of credit, with which risk-bearing investments or advance consumption exceeding our own financial resources can be carried out.

This means that besides the classical function, money appears in three newer contexts of use, each of which is more complex, intricate and risky than the classical use of money. These new usage platforms are typically accessible today through new electronic technologies. In this way, not only is the usage platform new, but also the technology through which it can be accessed. In the meantime, the new platforms and access technologies have been perpetually evolving over the past few decades. It is a delusion, therefore, to think that their efficient utilisation can be achieved without any theoretical knowledge or practical experience. In attaining knowledge of finance, as in other fields: There is no Royal Road![15]

In this chapter, we present examples of how the occurrence of a low level of financial knowledge or opportunities with respect to certain essential banking products has produced an exclusionary effect, dissatisfaction among consumers or society, or even financial losses.

The existence of a bank account is of fundamental importance for us to be able to link to global money-circulating systems and international financial markets. Without a bank account, economic opportunities remain restricted to the narrowest region, hampering growth and the development of social well-being, while the acquisition of indispensable products and services (e.g. in healthcare) becomes virtually unattainable – particularly from abroad via the internet. Moreover, in the absence of a connection through a bank account, cost-efficient payment of wages and modern digital administration becomes more difficult. In a significant portion of the world today, banking services and bank accounts remain inaccessible or entail unaffordable costs. In the context of financial services, international collaboration is thus required in order to eliminate this deficiency. One of the most effective means of closing the economic gap would be for a fraction of international aid to be used to make these services available to the entire (adult) population of the world.

Banks in private ownership can only offer to manage bank accounts on a market basis, since account services tie up IT and information capacities, the costs of which must be covered by the fees charged for these services. In more developed countries, basic accounts were developed for the poorer sections of the populace, typically for private individuals with incomes significantly below average – and generally based on a legal obligation to provide them. Such basic accounts are usually offered by banks with extensive branch networks, facilitating the financial transactions typically needed by the target group in the necessary volume and at a very favourable price. The aim is to ensure that everyone can connect to the domestic and international banking network at least at the basic level, with the opportunity to use modern and cost-saving methods of payment. Beyond basic services, however, the basic account may charge separate fees for other services that may exceed published fees for such services on other types of bank account. For this reason, it is usually not worthwhile for private clients outside the target group, with higher turnover on their accounts, to choose a basic account. For them, banks provide other types of account management package suited to their banking habits.

Customers usually choose a bank to manage their account based on the proximity of the bank branch, the scale of charges applied and the range of services on offer. They will typically become attached to their bank account and to a member of staff at their account-managing branch. At the same time, it may happen that someone will switch banks (for example due to a change of address). In Europe it is also possible for banks to redirect payment orders related

[15] The title of a book on the history of mathematics by Márton Sain (*Nincs királyi út!*), which implies that without learning, even a monarch cannot master science.

to a given bank account through the various service providers, thereby significantly reducing the administrative burden on the customer in changing accounts and making it easier to change provider (e.g. taking advantage of a cheaper mobile service provider). This service of convenience has received government support in order to increase competition between banks and service providers by providing the opportunity to change banks more easily.

Banks pay interest on the savings they hold as deposits. Interest on deposits is due only on the earning period. The rate of interest on a bank deposit is fixed over the given term of the deposit; however, this rate may change when the deposit is fixed again after the end of the initial period. The interest rate in the new period typically follows changes in money market interest levels that have occurred in the meantime. Deposit interest rate indicators were introduced to facilitate comparisons of the offers of various service providers, which compare the offers of individual banks projected for identical periods and taking into account mandatory additional costs. (In the case of loans, the annual percentage rate (APR) is used as an analogy to make a fundamental comparison of total loan costs.) Selecting a bank for the placement of a deposit takes place based on trust, and this trust is manifested towards the banking sector as a whole and each chosen institution within it. In the case of corporate clients and retail clients making large deposits, the authorities overseeing the banking sector presume that the depositor possesses the adequate knowledge needed to choose the institution at which to place their deposit. When it comes to small retail depositors, however, more developed countries have introduced the institution of deposit insurance implemented at the national level. With this, they ensure that retail customers are guaranteed reimbursement of their deposits up to a maximum amount (EUR 100,000 in the European Union) in the event of bankruptcy of individual banks. With regard to bank deposits, the following risks must be taken into account:

- the expected operating and liquidity risks of the given credit institution at the end of the deposit’s term, above the maximum value limit of national deposit insurance;
- in the case of fixed-interest deposits, changes in the interest rate during the term of the deposit;
- in the case of deposits placed in foreign currencies, changes in exchange rates during the term of the deposit.

Securities typically promise a yield above the interest on bank deposits of similar duration. A higher yield, however, entails higher risk. This is because in the case of securities purchases, the brokering institution does not usually undertake risk, and consequently the risk of the issuing state, corporation, institution, etc. is borne by the investor. Investor protection funds operating in certain countries typically may offer small investors only a partial guarantee up to an amount smaller than with deposit insurance, and usually with a degree of own risk, in the event of bankruptcy of the securities trader (not the securities issuer!). Firms operating in the various areas of investment, and thus also in securities trading, typically operate with a high degree of innovativity and occasionally outstanding yields. An outstanding yield or interest above the market level represents a great temptation, which is always liable to make even some individually well-educated and experienced people dizzy. Besides emphasizing the importance of financial education, we must remember – as a kind of self-criticism – that even knowledge and experience cannot completely withstand the allure of outstanding profit. Processes of this kind tend to end with spectacular bank or brokerage crashes.

We now present two examples of temptation and deception in Hungary, and the consequences thereof.

A member of a true-born local bourgeois family in a small town, formerly manager of a bank branch, embarks on an independent financial enterprise. Building on his circle of acquaintances and banking experience, he begins – without a licence – to gather investments, on which he achieves an outstanding return. The investors are happy to see the gain on their account statements, and consequently put all their money into the enterprise, followed by their own acquaintances and family members. The scheme builds like a pyramid within a short space of time, but then – before police and supervisory investigations can be completed – the entrepreneur turns everything into cash and disappears somewhere. In cases like these, there is no compensation and nor can there be, not even if it might mean winning the political sympathies of the injured clientele.

In another case, a well-known securities firm, previously operating in well-regulated fashion, is unable to function further at a significant profit. The owners then issue their own bond, which promises a very enticing yield, albeit without any kind of investor protection guarantee. The pull of a seductively high yield begins to take hold, and the firm is able to collect a very significant sum. Before the securities reach maturity, the accumulated money flows somewhere (to an off-shore centre?), and the responsible management end up in jail for perhaps a few years. Then, as is the custom in other internationally familiar cases, they consume the stolen money living in luxurious circumstances in some corner of the world. The aggrieved parties receive nothing according to the law. However, in this case, the government decides it will offer compensation up to a maximum EUR 100,000 – similarly to the limit applied in deposit insurance. One side-effect of this is that large investors "smell blood" and – enlisting the influence of the media – demand full indemnity. In other words, compensation provided outside a legal framework on the principle of fair treatment (and burdening others) engenders additional dissatisfaction in contravention of professional interests, the combined "price" of which potentially exceeds the supposed just outcome. This is particularly risky in the case of communities where the moral hazard is already high, since a safety net provided after the event may even increase this hazard. Let us not forget that in a classical market economy, it is precisely the absorption of losses which ensures that the moral hazard remains low.

I would like to use the story of a personal acquaintance to draw attention to stock market risk and the danger of being swept along by the herd mentality. My acquaintance is an outstanding engineer, who worked hard to accumulate a significant sum to invest that he held in bank deposits and funds managed by banking experts. However, for a long time the yields that could be attained on the capital market had exceeded those on conservative investment funds and classical deposits, and for this reason my acquaintance’s friends began to play the stock market at their own risk in hope of making bigger profits. At the recommendation of their broker, they at least agreed to first take part in professional training. As tends to be the case, the quickest training courses promising to pass on “sure-fire” methods were advertised at extortionate prices, and naturally most of my acquaintance’s friends chose these. The first week duly brought them great success, and they bragged to everyone about the results of their “genius” as investors. Fired up by this, my engineer acquaintance also completed the 2x3-hour “crash course” and, without listening to bankers in his circle, began his own independent investment activity. The first week – using a chunk of his assets – was a success, making the caution and expertise of bankers seem outmoded. The second week – now putting all his savings on the line – was again a success, prompting a dismissal of bankers and noisy self-congratulation. When we met in the third week, however, a bad mood had taken hold of him. After a while, in secretive fashion he confessed in private that all his savings were lost, and that he dared not admit it even to his wife. This is to say that while he shared his one-off successes with all and sundry, he hid his wretched downfall even from his family.

To acquire adequate financial knowledge and experience requires study, application, time and patience, and cannot be mastered through crash courses. At the same time, news of the success and brilliance of investors often (deliberately) forgets to mention that what one person gains, another person loses. And yet most of those who endure failure maintain a strict silence about their losses. This is because while the ratio of good to bad investment news that reaches us is 100:1, the parity in the scale of profits and losses means that in reality it is exactly 1:1. And generally it will be small investors, lacking the necessary professional background and ability or opportunity to share risk at the portfolio level, who will prove the big losers.

In seeking to assign responsibility, a typical human attribute – when not yearning for phenomenal financial success – is to point the finger at others. This is true in almost every area of life. For example, it is always the other party who is responsible for the breakdown of a marriage, the travel agency for an unsuccessful trip, the coach for failure in sports, and the banker for excessive indebtedness. This is to say that people generally do not admit their own responsibility. In financial affairs, in societies traditionally prepared for the circumstances of a market economy, this is not a major problem. However, in the one-time socialist countries, the degree of individual shouldering of responsibility is even lower, and the ingrained attitude is for individuals to expect that their problems – particularly if they appear within an appreciable portion of society – will be resolved by the government; obviously from public money and with society bearing the burden. Political leaders in these countries are also inclined this way, precisely in the interests of acceptance or expectation within society of government rescue packages, and perhaps of the political backing that can be secured in this way. This is how it was between 1950 and 1990, and we saw how long the communist leaders of the time were able to retain power. Social self-deception harms society itself, however, since ultimately the whole of society feels the effects of the irresponsible errors committed by some people – even if there are many of them. And because of the “socialization” of losses, it is hard or scarcely possible for the acquisition of experience to evolve as a natural process that would have a restraining effect in the event of risks emerging. The great advantage of a market economy is that by shouldering risks a higher return can be achieved. The freedom of individuals to manage their assets and consciously undertake risk takes shape in a natural way in a market economy, enabling the more effective functioning of the economy as a result.

Irrespective of their number, social compensation for the consequences of erroneous decisions by individuals generates resentment among the other players in a market economy. In other words, political decisions lobbied for or extorted by certain groups of society can set back the growth of individual national economies to such an extent that the majority of society ultimately ends up worse off even in the medium term.

A good example of this was provided by the political handling of retail foreign currency-based mortgage lending (typically in Swiss francs) in Hungary and other countries of Central Europe after the outbreak of the economic crisis. The 2008 crisis caught the Hungarian economy and political leadership completely unprepared, and the forint as the national currency suffered a significant loss in value. The Swiss franc, on the other hand, fundamentally appreciated as a reliable reserve currency. The combination of these two effects resulted in the HUF/CHF exchange rate almost doubling within a matter of months. This brought a historical turn of fortune, since in the latter period of the socialist regime and the initial period after the change of political system, housing issues had been relegated to the back burner by the economic downturn. After the period of high inflation and with Hungary’s accession to the EU, cheap, low-interest foreign currency mortgage loans suddenly became available en masse, the attraction of which was similar to that of investments with miraculous returns. And the banking sector, with its intuition for social expectations, played a very active role in propagating foreign currency-based mortgage loans, primarily in Swiss francs. Due to changes in the HUF/CHF exchange rate, the value of individual mortgage loans routinely exceeded the value of the given property, while rising monthly loan repayments became very difficult to meet on wages fixed in Hungarian forints. Amid the changing exchange rates, the Hungarian government guaranteed the repayment or conversion into forints of foreign currency-denominated (typically CHF-based) mortgage loans for everyone (not based on means) at an intermediate, artificial rate of exchange – to the detriment of the banking sector. This step – and its international reception – further escalated the depreciation of the national currency. The Hungarian banking sector, overheated and profitable under prosperous conditions and responding to the exaggerated expectations of owners in the period preceding the crisis, lost one-third of its capital as a consequence of managing foreign currency mortgage loans and crisis taxes, and thus also lost its competitiveness in the region and its capacity to stimulate the economy. A variety of successful, albeit very costly measures were taken by the government and central bank to counter banking sector and investor uncertainty and to stimulate the economy. A total of around 10% of the Hungarian population received a significant reduction in their mortgage loan repayment burden; however, as a consequence economic growth could only be restored with significant government support, while the costs and risks of government crisis management measures were built into potential investor decisions. In addition, the moral hazard level among some rescued foreign currency debtors rose even more (for example, they increased their personal consumer borrowing to an astonishing degree, presumably trusting that the government would come to their rescue again later). At the level of society as a whole, it is likely that Hungarians did not benefit from the government bailing out the group of foreign currency borrowers.

It would surely help keep society's expectations on track if calculated financial planning and respect for the banking sector were to become features of the public's way of thinking. On the other hand, at the societal level we must recognise that there are no free lunches; that every subsidized or free service will sooner or later have to be paid for by end-consumers in its entirety. Processes similar to that in Hungary, whereby pressure was exerted by society, took place with respect to foreign currency-based retail mortgage loans in Croatia, Romania and Poland, to name three examples. For the sake of an accurate portrayal, it should be noted that the problem with foreign currency loans caused the greatest social tension in Hungary, since it affected some 10% of the total stock of real estate in the country.

Exchange rate fluctuations are the most exciting aspect of global financial markets. The practice of tying various exchange rates to each other has practically disappeared today, with prices on international markets continuously driven by the prevailing balance of supply and demand. With movements in exchange rates, what one party gains another party loses. This is to say that if a depositor holds savings in a currency other than their given national currency, while another customer takes out a loan in the same currency, then it is clear to everyone that, with a change in the exchange rate, one party's loss becomes the other party's gain, and vice versa. In other words, profit and loss are generated even if someone does nothing but hold their savings or run into debt in a currency other than their own national currency.

In this respect, it is also fair to say that whoever makes a gain on exchange rate fluctuations or interest margins will believe themselves to be a financial genius. But whoever loses will try to shift their responsibility to someone else, for example to their bank, asking why they did not realise exchange rates would move.

Banks, however, are not soothsayers: they can only calculate future exchange rates exclusively from current prices and the spreads between currencies. It is only on this basis that financial institutions can conclude future price transactions, since in the event of any other price fixing any third party would be able to obtain a risk-free profit by simple arbitrage. It also must not be forgotten that banks are strictly supervised intermediary institutions, which must precisely cover the foreign exchange risk in both directions against their earnings or capital, meaning that no single commercial bank can make a major gain or loss on exchange rate fluctuations. An impact is only apparent when the strengthening of the national currency improves the quality of the loan portfolio, or conversely, when the quality of the loan portfolio deteriorates due to the weakening of the national currency. In the aforementioned case of Hungarian Swiss franc loans, for example, the depreciation of the national currency, through the deterioration of the loan portfolio, led to losses at every Hungarian credit institution. Although certain incompetent, self-proclaimed financial experts and lawyers questioned this during the toughest period of the crisis, their time has passed and no one listens any more to their unintelligible drivel and conspiracy theories.

Consequences of the deterioration in loan repayment morals

In the natural operations of commercial banks, strong lending activity in times of prosperity makes the credit process even quicker, while in a recession the rapid scaling back of lending exacerbates the problems. This natural behaviour reinforces cyclical effects, which can only be blunted through exclusively regulatory and supervisory means, since a basic characteristic of credit institutions is that they precisely fill the space available to them. In other words, although the banking sector may not like it, it needs regulation as a controlling function, and it even demands it as a potential legal means of enforcing contractual discipline.

The banking sector is essentially intermediary in nature, and as such, though the capital requirement necessary for its operation is high, it lends largely not from its own assets, but from the funds of its depositors. In order to be able to pay interest on deposits, it continuously requires efficient operation, low operating costs and interest income from loans (always greater than that paid out on deposits), as well as the return of loaned money. To achieve this requires predictability and stability in every area, but particularly in regulation, supervision, taxation and competition law.

With respect to customers, the hardest occurrence to deal with is when banks must utilize the tools provided by law and stipulated contractually to enforce the fulfilment of contracts in the event, for example, of default on payment. This is not a desirable outcome for banks either, since enforcing claims by legal means entails considerable surplus costs, besides which bad bank debts are usually only partially recovered. The additional administrative costs of handling individual cases increase the losses. In the case of mortgage loans, meanwhile, they also have to reckon on the social reaction to enforcement of their rights, since a measure such as eviction, for example, can be painful for everyone.

At the same time, in countries with looser payment morals or courts that are slow to deliver judgements (factors which vary significantly in degree from country to country and culture to culture), continuity in the economy's operation can only be ensured by constantly maintaining coercive tools. When a country restricts the use of such tools, the problem can soon grow into one affecting the whole of society. This is demonstrated in the way that the proportion of non-performing retail loans has evolved in such different ways in Hungary and Slovakia, two countries with otherwise similar economic, cultural and employment backgrounds, under the impact of differing political solutions to the problem of foreign currency loans. In Hungary, politics strongly intervened against banks in this process, making it more difficult for them to assert their rights in the case of mortgage loans, as a consequence of which the ratio of default increased as much as eightfold between 2009 and 2014 in the case of retail mortgages, and later all types of retail and small enterprise credit, reaching nearly 20% for all the loan products mentioned. In Slovakia, meanwhile, with its similar background and situation, the number of those defaulting on retail loans grew from 2.99% to “only” 3.43% over the same period. Political intervention is also reflected in the increase in the moral hazard: according to a survey in Hungary, the ratio of retail clients who could pay off their mortgages based on their income situation, but who decline to do so, may be as much as 30% (Dancsik et al., 2015). Banks experienced a similar effect in Ukraine, where political uncertainty led to default on loans becoming universal, and where the bank sector responded by discontinuing retail lending throughout the country.

Growing financial literacy enhances financial awareness, resulting in more responsible borrowing and greater payment discipline. For the banking sector to be able to repay capital with added interest to the depositors who provide the funds for their loans, the government has the task of guaranteeing the means for banks to enforce their rights with respect to their lending activity. It is an entirely false notion that when loans are not repaid only the wealth of banking families will diminish, since commercial banks do not finance from their own assets and their owners are not individual banking families, but society itself, for example through the savings of pension funds. Which is to say that losses, similarly to firms listed on the stock exchange, will be borne in the first round by the broad circle of owners, and then in the second round by the entire clientele via the rising prices of services.

The stability of the national banking sector is in the nation’s interest, since connection of the national economy to the global economy takes place through financial intermediary institutions, i.e. banks. Albeit often waiting until the last minute, this is why every government ensures the continuous functioning of systemically important financial institutions when the need arises, for example via government loans or by acquiring stakes in ownership. However, during the economic crisis in September 2008, to great surprise within professional circles, the United States declined to rescue Lehman Brothers Holdings Inc., one of the leading global financial institutions in America. As a result, confidence in the biggest banks, and hence in the banking sector as a whole, was called into question, the harmful impact of which exceeded the costs of rescue many times over in America and elsewhere. Since then every government has taken its bank-salvaging tasks very seriously, since recognition of the problem of “too big to fail” strengthened in everyone due to the astonishing avalanche effect that Lehman Brothers precipitated. The avalanche effect could not have happened because of the bankruptcy of one single bank, but became much more destructive because of the erroneous fiscal policies of several countries (e.g. PIGS), which could not be corrected in the euro zone, for instance, due to the single monetary policy (since own currencies could no longer be devalued according to the earlier practice). However, due to the financial origin of the economic crisis, there are proposals to ensure that the costs of rescuing banks can be kept under control (just as there were during earlier crises, with a European Union committee led by Erkki Liikanen now working on this within the framework of bank structural reform), by restricting the sphere of activity or size of individual global financial institutions through regulatory provisions.

At the same time, the economic crisis of 2008 demonstrated in a number of sectors of the economy that standing on more than one foot – whether manifested in several areas of service or in a presence in several countries – increases the stability of a corporate group. In a period hit by economic crisis, staying afloat means increasing cost savings, and this may take the form of mergers alongside the aforementioned greater stability. This is why the notion of "too small to survive" has legitimacy in the post-crisis period, as powerful regulatory and competitive challenges have arisen in the banking sector which have made a contraction in the number of market players inevitable, likely leading to future mergers in the sector. The natural concomitant of a fall in the number of market players is declining market competition, while the similarly natural consequence of mergers is a reduction in headcounts; these impacts, therefore, will be direct consequences of political decisions arising from overregulation and over-taxation, etc.

From a consumer point of view, this may at the same time strengthen confidence in the merging and surviving members of the banking sector, since the theoretical rationale for overregulation is that risk in the sector thereby decreases.

Financial education and knowledge is the most effective tool for increasing the acceptance of the banking sector within society as a whole, since without this the sector cannot become an organic part of the economy and credit cannot become the foundation of growth. It is this which a modern financial intermediary system such as the banking system can achieve most efficiently. The financial intermediary system functions on financial markets, which are based on legality and predictability. If an unexpected intervention in market processes occurs for whatever social, political or economic policy reason, then its cumulative social impact may easily prove negative for reasons of investment risk, moral hazard, etc.

Individual financial decisions are sometimes characterised by an expectation or belief in miracles, often ending in great disappointment, i.e. financial losses. In the case of societies that connected to the market economy not long ago, increasing financial literacy is essential to ensure greater undertaking of responsibility and capacity to assume risk, which is indispensable for a more efficient and competitive economy. This is one of the main reasons why the former socialist countries have taken a surprisingly active part in the programmes of the pan-European Money Week.

Researches about financial literacy

After economic crises, research activities, surveys and scientific studies related to financial culture accelerate, but tend to slow down after the economic environment has stabilized. Studies, therefore, focus on short time periods and primarily reflect temporary situations at a particular moment in time instead of giving a comprehensive picture of the whole process.

The recession due to the economic crisis that unfolded in the autumn of 2008 ran deepest in North America and the European Union, and was relatively weaker on other continents. There is nothing surprising about it as the American mortgage crisis hit primarily and most heavily financial institutions strongly related to the mortgage market as well as their parent countries, although home loan bubbles developed in a number of countries in Europe as well, and then burst as a consequence of the crisis in the US. The crisis was the longest in the European Union, for the most part because European integration had not reached a level that would have allowed for EU level crisis management. Consequently, member states typically handled the crisis at the national level, without adequate coordination with their peers. As a community, he EU primarily focused on providing financial bailout to countries facing bankruptcy. A typical example would be the PIGS countries, especially Greece, but several Central-Eastern European countries also needed help. Within the European Union, Hungary followed a unique path, and managed to stabilize its financial position and keep social tensions under control after the 2010 elections by introducing additional levies and extraordinary crisis management regulations, putting pressure on wages and using government communication mixed with populist elements.

The special tools of Hungary's crisis management mentioned above, especially the methods used for dealing with foreign currency loans widespread at that time in Hungary, revealed serious gaps in the financial literacy of the Hungarian population in general and made people receptive to make amends. That explains why Hungary turned out the most active country in the EU in the area of financial education according to Money Week's survey (in 2015 and 2016, nearly one third of the European students taking part in financial education programs during the thematic project weeks were Hungarian!). As a result, researchers were able to conduct surveys on financial culture involving a wide range of respondents. This chapter will look at such studies in Hungary and discuss their results.

I. Econventio's surveys among secondary school students, pupils and adults

Econventio Roundtable Nonprofit Association has been organizing annual surveys since 2011 to assess the financial literacy of secondary school students, reaching a very large target group, in 2015 more than 12,000 respondents; – Econventio test: secondary school students' test results (2015). The 2015 survey was expanded to include students in higher education (5200 respondents) as well as adults (5600 respondents) in order to make comparisons; – Econventio test target groups comparison (2015).

In order to assess financial literacy, they looked at respondents' information-gathering methods, their financial preferences, as well as various aspects of decision-making. In the first case, they analysed knowledge, past experiences, communication channels, information sources, as well as factors such as attitudes, values, personal finances and plans for the future underlying the preferences, and in the second case they also looked at calculation skills in addition to qualitative decision making (Kiss-Kosztopulosz-Kovács-Révész, 2013). The above factors were analysed in six different areas:

1. general grasp of economic issues,
2. general knowledge of financial services,
3. savings and investment,
4. lending,
5. pension and insurance,
6. world of work.

For secondary school students, who were the main focus group, financial literacy was explored using demographic variables including age and gender, as well as education-related factors (school type, length of school education, subjects on the curriculum). In the case of the other two age groups, classification was based on sociodemographic variables corresponding to life situations specific to each group (e.g. for colleges students – type of school, work experience and type of household, whereas for adults - qualifications and degree, and adult-educational experiences were supplemented with more elaborate household and income dimensions).

According to the survey results, which are in line with international findings, Hungarian secondary school students find it difficult to calculate percentages and compound interests, clearly understand such expressions as “at least” and “at most”, and compare various offers when making financial decisions. Seven out of ten students would choose a bank based on banking costs, but over 50% mentioned extra services as well. One third of the students take their parents' opinion into consideration, and more than 60% rely on their family as a major source of financial information. Besides family members, every second student mentioned the Internet and school as major information sources. Two thirds of secondary school students would choose an insurance product that pays the most in case of a claim, and every sixth student would go for the cheapest insurance policy. Students, however, fail to look for optimal solutions: some are price sensitive, whereas others only care for service quality.

The researchers believe that unfamiliarity with and an inability to distinguish between central bank and commercial bank functions, and an insufficient understanding of general economic indicators (e.g. inflation, unemployment) may create problems, because the ability to understand financial and economic news delivered by the media day after day is the cornerstone of financial culture.

In accordance with international findings, a significant correlation was found between the attitude of secondary school students to financial issues and the level of their financial knowledge. However, the findings show that while a very positive attitude does not necessarily lead to a high level of financial knowledge, people with negative attitudes have very low levels of knowledge. This confirms the idea that knowledge and attitudes should be developed simultaneously. This holds true for the other two target groups, i.e. college students and adults as well.

In terms of topics, the lack of knowledge was most evident regarding loans, insurance and pension products, where students have very little personal experience and depend on their family's experience alone. It is important to explore these aspects because they may help in assessing to what extent students understand what is going on in their environment and how well they are prepared for the future.

The highest test scores were achieved by students in higher grades, men, and students majoring in economics or finance, while the performance of vocational school students was significantly lower than that of their peers in other secondary-school types.

Generally, it can be concluded that age and life experience correlate with performance. Students in higher education perform better than secondary school students in almost all respects, and we find a similar pattern when comparing the scores of students in higher education with those of adults. Life experience and an involvement in managing finances represent a decisive advantage. At the same time, respondents may have difficulties with competences, such as calculation skills, acquired through learning, although here college students outperformed adults. Results were similar when assessing the knowledge of financial structures and basic macro-economic concepts. Regarding topics such as insurance, pension, the world of work, lending, and general economic knowledge, the difference in performance was almost identical in the case of secondary school students vs. college students, on the on hand, and college students vs. adults, on the other hand. However, when it came to banking services or savings and investments, the gap between college students and adults was 2.6 times bigger than that between college students and secondary school students. In respect to financial and insurance products, all three age groups used quite similar criteria for selection, although among adults the role of financial training and personal experience in collecting information becomes more pronounced.

The Econventio test (2011) revealed that 82 percent of Hungarian secondary school students think that it is important to be familiar with financial products and services, 70 percent are interested in financial news, but only 50 percent consider themselves knowledgeable about such financial products and services. In comparison, according to the findings of a survey carried out by the Association of German Banks in 2015 (Bankenverband, 2015) on young people's attitude to digitalization, their understanding of economics and financial literacy in Germany, two thirds of the youngsters believe that it is important to be well-informed about the workings of the economy and world of finance, and most of the respondents think that this knowledge should primarily be acquired at school, and be taught as a school subject in its own right.

The results of the survey exploring the economic and financial culture of German youth show that although they have a good understanding of some of the most important concepts, the majority of respondents have difficulties with more complex financial calculations or answering questions about institutional structures. Although economic literacy has improved since the previous survey in 2012, only some 60% of young people have a good or very good grasp of economic issues.

40% of respondents in this age group regularly take care of their finances, the majority of whom have already graduated from secondary school. Most young people have payment accounts and some 50% save regularly. Young people's attitude to banks has been steadily deteriorating. While more than three fourths had had a positive opinion about banks before the financial crisis, their numbers gradually dropped to two thirds by 2015. Above all, the youth in Germany expect the banks to provide secure investment and saving solutions, inexpensive current accounts, and easy access to and personal contact with relationship managers and financial advisors.

To sum up, life experience plays a more important role than classroom learning in acquiring financial knowledge. Therefore, we definitely need practice-oriented textbooks in financial education. The textbook “Financial Compass”, developed for secondary school students aged 15-16 years to meet the needs mentioned above, was very well received by both teachers and students.

II. Survey of the State Audit Office of Hungary among college students

The survey initiated by the State Audit Office and conducted by five cooperating institutions (Béres-Huzdik-Kovács-Sápi-Németh, 2013) explored financial literacy among Hungarian youth in higher education studying various disciplines, in order to develop a methodology for measuring the efficiency of programs aimed at developing financial culture.

The survey was conducted in two higher education institutions based on questionnaires completed by 2.070 respondents, 80% of whom fell into the target age group (18-25 years of age).

Based on the literature consulted, the researchers established that the financial culture of the adult population is determined by sociodemographic variables. They also looked for a similar evidence in the target group as well, taking into consideration general criteria (e.g. age, gender, family status and housing conditions, etc.) as well as criteria related to education (e.g. type of training, level of education, specialization, etc.). They concluded that the level of financial literacy varied according to the above dimensions also in the age group in focus. It is important to point out that in one case no such correlation was found: namely, financial-economic training provided in secondary schools failed to have a significant impact on the students’ financial literacy.

Researchers examined if there is a significant difference between the actual and perceived financial knowledge of students, broken down by gender as well, and if such a difference, if any, has an impact on financial risk appetite. Tolerating a deviation of max. ± 15%, over half (59%) of the respondents falling in the 18-25-year age group have a realistic picture of themselves, even as the proportion of those over-estimating (30%) or under-estimating (11%) their knowledge is relatively large. Generally speaking, the conclusion is that students tend to overrate their literacy level. Data by gender showed no difference in this regard. As far as risk appetite is concerned, the researchers found that when it comes to taking risks a considerable proportion of students are more cautious than expected on the basis of their financial knowledge, be it perceived or actual (over 70% in both cases). Consequently, results failed to confirm the hypothesis that risk appetite depends on the level of perceived financial literacy rather than on actual competencies. With all that, due to the lack of sufficient evidence this hypothesis should not be dropped as yet.

Hungarian and international literature consulted in the study indicates unequivocally that the financial culture of college students is poor. Previous studies, however, failed to take into consideration certain factors such as students' specific living conditions, set of preferences or income. Therefore, this survey looked into whether students in higher education know financial products that correspond to their life conditions, and if they do, whether they use such products accordingly. In order to explore these issues, they looked at the students' objectives, competences related to lending as well saving and investment, and habits of using financial services and products. The results revealed that their objectives and high-priority needs, as indicated by their preferences at the time of the survey, include short, medium and long term goals as well. When taking into consideration the students' income and saving potentials, which depend on their income, i.e., the resources at their disposal to use for various purposes while maximizing benefits, it comes as no surprise that they focus on meeting their current needs even if it entails the prolongation of long term objectives. Accordingly, they seek short-term financial solutions rather than long-term ones, and try to maintain their liquidity, which explains their risk aversion. As their income and thus savings volume increase they become more and more open to more complex and longer-term financial products.

III. Survey at the Miskolc University among economics / non-economics students

A survey conducted by Kovács, L. (2015) also examined the financial literacy of students in higher education focusing on familiarity with widely used financial concepts and products, with special regard to differences in competence between economics and non-economics students.

The survey was based on questionnaires completed by 61 second- and third-grade students studying economics and 49 students pursuing other disciplines in third and fifth year.

At first sight, the outcome seems to contradict the finding of the Béres-Huzdik-Kovács-Sápi-Németh survey (2013), according to which the performance of students studying finance and economics is significantly better than that of students of other disciplines, as the results of Kovács's survey show only a slight difference between the two groups. However, this difference between the results turns out to be superficial and diminishes if the age and related practical financial and sociodemographic characteristics of respondents (higher income, change in source of income, employment, etc.) are also taken into consideration. It means that the theoretical education of second- and third-grade economics students did not result in any advantages against students of other disciplines or older peers. The author draws the conclusion that any education aimed at developing financial culture and knowledge should be practice-oriented, because lexical education in school settings cannot prepare people for dealing with practical financial issues.

The survey also looked at how often students encounter economic and political news that may improve their financial knowledge. It was revealed that economics students read or listen to such news at least once a week, whereas other students do so even more rarely. The author points out that such attitudes towards seeking information has a major impact on the development of financial biases, which in turn will influence the level of financial culture.

IV. Diákhitel's survey among students in secondary and higher education

Diákhitel Központ Zrt. had a survey conducted among students in secondary and higher education aged 17-26 years to explore how fresh graduates see their future, value their degree, and think about investments in learning (Diákhitel Központ-TNS Hoffmann, 2014). The study also looked at the financial knowledge and attitudes of the target group. This survey was special inasmuch as the online questionnaires completed by 500 respondents were supplemented by 18 in-depth interviews – 6 with graduating secondary school students, 6 with their families and 6 with college students – to discover motivators and patterns in personality development underlying financial literacy.

It was found that due to their social positions secondary school students and college students have different attitudes to money. Secondary school students from average income families are considered children from this perspective, as their parents have total control over family finances, therefore, these youngsters are not skilled in handling financial issues and have limited understanding of the cost of living. They save money almost exclusively in order to finance their own "extra" consumption, so they do not understand what investment is about. Teenagers living in less wealthy families are more involved in their families' finances, but these families typically plan for the short term, their primary aim is to cover monthly costs and hardly have any savings. College students have more information on financial realities, and have already acquired some experience in financial management as well as making and spending money, i.e., they have a better understanding of the financial world. This is the time of detachment from parents, which also entails independent budgeting, handling their own money and pursuing total financial independence. Children coming from poor families may even want to support their parents.

The majority of secondary school students do not consider themselves skilled in financial matters. Those who work and thus have some income of their own have a better understanding of the value of money. Compared to secondary school students, college students are more knowledgeable about finances. It is especially true of those with a regular income. However, they also fail to fully comprehend the world of money.

Both groups of students participating in the survey consider responsible spending important. Currently, investments are the least important (and relevant) for both groups. The use of financial products is not widespread. Secondary school students dispose over small amounts only, which they normally receive in cash, although some 50% of the respondents have a bank account anyway. Students in higher education, however, may want to use, on a regular basis, some simple financial products as their circumstances are changing (job, independent expenses, stipend, etc.).

V. Survey of Money Compass − Foundation for Financial Awareness among adults

Following OECD methodologies, Money Compass − Foundation for Financial Awareness had a survey conducted on the financial literacy of adults and on households' access to financial services in Hungary (Pénziránytű-Gfk, 2015). One of the benefits of the survey, based on OECD's standard questionnaires adapted to the Hungarian environment, is that it had been conducted for the second time. Another plus is that it was performed concurrently in 30 countries. So the results allow us to look at development trends in the financial culture in Hungary, and to make, albeit limited, international comparisons. The survey is based on a sample size of 1,000 participants selected based on key socio-demographics.

The questions were designed to explore key factors such as households' financial stability, financial awareness, financial decision-making, and financial knowledge. The researchers were also looking at changes in these areas since 2010.

The results indicate that the financial stability of households has improved since 2010, which comes as no surprise considering the general recovery of the economic environment; the proportion of households not capable of covering the cost of living from their regular income dropped to 27% from the previously reported 33%. Unfortunately, a negative trend was observed in terms of behaviour during times of crises. The role of cost cutting and using up savings decreased, while selling assets and working more hours increased, which indicate a natural transition from using liquid resources and short term solutions to corresponding long-term arrangements. Within adaptation strategies, the rate of wilful late payment or delinquency increased (to 22%), which is a good indicator of growing moral risks. Based on responses, an improvement in personal finances has not been accompanied by a statistically significant growth in emergency reserves. Another negative development is that the proportion of households having a family budget decreased from 32 percent to 25 percent.

The survey results show that more than half of the households have no financial goals, although self-reliance is becoming more and more relevant in stabilizing the day-to-day management of finances. Another important finding is that although most people know the banking products offered to them, product penetration is still very low, except for some basic products, with no apparent change since 2010. Regarding insurance, the number of products sold actually declined.

There is some positive development with regard to making informed financial decisions by households, but the introduction of regulations making switching between banks easier in order to boost competition seems to have no impact on such decision making. In 2010, one third of the respondents made financial decisions based on information about one single product, while this rate improved to less than 20% in 2015. However, this positive trend is only valid for deciding between alternatives offered by the same bank, with no notable difference seen in terms of competing products offered by various banks.

VI. Survey of the State Audit Office of Hungary on the efficiency of financial studies

The State Audit Office conducted a study (2016), building on some findings of the surveys exploring the financial culture of the population by age groups as discussed above, to assess educational programs designed to enhance the financial culture in Hungary. The primary aim was to identify organizations providing educational programs, their constituency, syllabuses and educational methods, and assess the effectiveness of such programs. Principally, the study was expected to generate results that can significantly contribute to the development of strategies for financial education, specifically for the enhancement of financial culture, furthermore, to discover the educational needs of various social segments (and sub-segments), and identify the strengths and weaknesses of existing educational structures and programs.

The researchers applied a broad definition of ’financial culture enhancing programs’ including any finance-related trainings, studies, surveys, competitions, advisory activities, national or local projects, documents available online, communication campaigns, applications, etc., provided, often in cooperation, by governmental and/or non-governmental organizations (typically operating in the financial markets). Accordingly, they created a sample of 110 organizations, which had organized the overwhelming majority of training programs in Hungary to develop financial literacy, including actors playing a crucial role in the enhancement of financial culture, such as banks, insurance companies, partners of the State Audit Office, organizations liaising with elementary and secondary schools, organizations and natural persons having previously applied for Hungarian National Bank / Financial Supervisory Authority funds, as well as other for-profit and non-profit organizations and natural persons whose work is related, according to publically available information, to the development of financial culture or financial consumer protection. Key research findings are based on answers to questionnaires, completed voluntarily by 63 organizations, more specifically on information provided by organizations offering financial educational programs. The educational activities of organizations reaching a wide audience were analysed separately by the researchers (including 4 public administration institutions, 5 financial institutions, 14 non-profit organizations and 12 other companies).

The researchers concluded that most of these education programs target the age group of elementary and secondary school students, who, compared to their ratio within the entire population (22%), are heavily overrepresented (81%) in these courses, with secondary school students being the main target group. Organizations reaching a wide audience, including financial institutions, are especially likely to offer such programs to this age group. On the other hand, adults older than 25 years of age are underrepresented (19%) compared to their ratio within the population (78%). Programs designed for this audience are mostly provided by other kinds of companies.

According to the survey results, the cost of education programs are mostly (63%) covered from the organizations' own budget, which comes from both public and private funds. Organizations reaching a wide audience and financial institutions typically use these kinds of funds (although 100% of the costs of programs organized by financial institutions comes from their own funds). Publically financed (at least in part) educational programs usually reach a wider audience, but the difference is not statistically significant. The survey findings confirm that fees paid by participants constitute a major source of financing training courses provided to adults.

The survey also looked at the main goals of educational programs and the topics covered. The majority of the courses focused on general financial knowledge to develop the financial culture of the population, increase the participants' financial knowledge, their skills to adequately assess financial risks and to improve financial self-awareness. Accordingly, content elements such as information related to household and personal budgeting and planning, and tools to improve financial self-awareness and financially conscious behaviour dominated the syllabuses, while features of various financial products were hardly mentioned. Regarding educational programs organized by financial institutions it should be noted that the promotion of particular products played no significant role within the goals and/or topics, whereas a special emphasis was put on providing information and tools for avoiding indebtedness and debt traps.

As far as educational methods are concerned, traditional lecture-style instruction is the most widespread, with practice-oriented trainings including teamwork, role-play and case studies being the second most prevalent. A large majority of training programs run only 1 to 4 hours. It is quite surprising that short courses usually cover a wide range of topics, often more topics than longer courses lasting a full day or longer. The syllabus of training programs is rarely accessible online (34%), and is made available 50% of the time only if specifically requested. The situation is even worse concerning course materials, because more than 75% of them are not accessible to the public. Most training programs are delivered by professionals with a degree in financial economics; full-time teachers are involved in less than 50% of the programs, while organizations reaching a wide audience almost always hire teachers to deliver their educational programs. Preparatory training is provided to instructors in slightly over 50% of the educational activities. Conditions are more favourable at organizations reaching a large audience inasmuch as preparatory training is provided to instructors up to some 80% of the programs. This is probably due to the fact that the majority of the participants are students. Training syllabuses are typically designed after having assessed the educational needs of the target groups, and participant satisfaction is also measured after the programs, although the effectiveness of training programs is usually not measured.

As indicated by the findings discussed above, the survey revealed that one factor that is likely to inhibit the improvement of financial culture is that while a high percentage of public education students benefit from courses meant to enhance financial literacy, such courses are rather short in length, and usually last a couple of hours only, which makes it even more difficult to effectively deliver the learning material. Moreover, it was found that shorter courses typically cover more topics, limiting the time available for discussing each topic.

The lack of accessible and publicly available syllabuses and course materials also represents risks. This is especially problematic in the case of training programs targeting students, because neither parents, nor teachers, public authorities responsible for education and taxpayers have sufficient information about the topics covered and the approaches or methods applied in the courses.

Another risk the survey results draw attention to is that there is no information available on the effectiveness of programs benefiting from billions of forints in public funds, as the effectiveness of the training courses is usually not measured. To ensure a responsible and informed use of public funds, organizers of publicly funded financial literacy enhancing programs should not only publish the course syllabuses and materials and ensure quality control, but should also disclose data on the effectiveness of the training.

The survey results also show that the lack of adequate quality control may be part of the reason why many programs turn out to be ineffective. Quality criteria include the followings: professional competency of the teachers; accessible and detailed syllabus tailored to the target group's needs and characteristics; quality-controlled course materials; training methods and course length suitable for the training objectives; and measuring the effectiveness of the training program.

It is essential to boost quality and meet the prerequisites of success in order to increase the effectiveness of future training programs. Furthermore, information on each training program should be made accessible and their result assessable, and today's sporadic and independent initiatives should be integrated into a comprehensive educational structure.

The survey revealed that organizations offering training programs to develop financial literacy and using considerable amounts of public funds to finance such activities fail to target groups that are most in need of education (e.g., people with low income or unemployed people). Besides, as the vast majority of courses targeting adults are funded by the participants themselves, those with low income cannot attend such courses. Currently, courses for adults reach only a few of the people most in need of financial education, which means that such programs are not expected to significantly increase the level of financial literacy of the general public. The researchers suggest that in the future publicly funded courses be provided not only to youth still studying in schools, but also to adults.

VII. Survey of financial personality types

Béres-Huzdik-Németh-Zsótér (2015) defined and explored financial personality types in order to determine personal qualities that may help in assessing an individual's financial culture. The survey sought to identify the dimensions that would be key to defining financial personality types and would predict a person's financial decisions in particular situations. In conducting the research and evaluating the results it was taken into consideration that an individual's financial behaviour and habits may be extremely varied in both space and time as the formation and modification of these individual features are influenced by a number of factors. This has led to the conclusion that as variables used in defining categories may change over time (gaining or losing importance compared to other factors) they allow researchers to draw valid conclusions only at a particular moment in time.

The research was based on online questionnaires. In order to reach a large audience, no sociodemographic data were collected, i.e., the survey sample should not be considered representative. Nevertheless, researchers believe that the large number (3.088) of completed questionnaires allows for drawing statistically valid conclusions for the entire population.

Personality types were categorized according to pre-defined personality profiles as well as personality profiles created by using mathematical-statistical methods with multiple variables on the basis of empirical data gained from the completed questionnaires.

The pre-defined personality types established on the basis of professional literature were put into six categories (dimensions): price-sensitive, economizing, moderate/disciplined, saver, diligent, aware. The statistical analyses indicated that in most cases one single indicator is not sufficient to fully describe any financial personality – or, more concretely, to decide what characteristic(s) would be relevant for predicting financial decisions, nevertheless, the presence or lack of particular characteristics may serve as a reliable indicator of future behaviour. For example, after having statistically analysed individual factors and interpreting the results, the researchers have drawn the conclusion that price-sensitivity is somewhat negative, while diligence and awareness are positive features of a financial personality, whereas thriftiness, moderation and saving are neutral. The researchers underline that their findings regarding the dimension of 'saving' are important for both banking and macro-economic considerations. Although from a micro-economic perspective, the volume of savings (or saving habits) are important evaluation criteria in banks' credit rating systems, while saving alone is not an adequate indicator of an individual's financial personality. From a macro-economic perspective their findings are important because 'saving' is not considered very important by respondents, while savings have a crucial role in financing investments in the national economy. This means that both the private and the public sectors should continuously stimulate savings using their own tools, in order to ensure the availability of saving volumes required for the economy to develop into a positive direction.

When evaluating the financial personality profiles the authors were aware of the fact that an individual's financial personality may be described by using qualities different from the pre-defined financial personality dimensions, because there are sometimes only slight differences between particular dimensions. That is why they ran a factor analysis of the collected data and established some new dimensions that better describe the population concerned. Based on empirical data, they created nine dimensions which show partial overlaps with the pre-defined categories, but allow for a more sophisticated categorization: short of cash / economizing, spendthrift (opposite of moderate), believers in 'order creates value', price-sensitive (here the focus is rather on good value for money as opposed to the category described above), collector, planner, once up once down, diligent, cannot control his finances. It holds true for all these categories as well that the evaluation of an individual's financial personality based on any single dimension is more than challenging and may lead to false conclusions. However, they found that some dimensions might serve this purpose well. In this classification system, diligence and planning are reliable indicators of a positive financial personality.

In the authors' opinion the most important lesson to be learned from the research is that individuals can do a lot to improve their finances. Both the pre-defined and empirical dimensions indicate that an improvement in financial awareness (planning and keeping track of expenses) and diligence are the most important components of a successful strategy.

VIII. Deloitte's survey on the financial habits of Hungarian households

According to past Deloitte's quarterly Scale Bank Index surveys on the household consumption, savings and borrowing willingness the Hungarian banking customers are still do not deliberately choosing among the demanded services, and the digital switchover seems to be still far apart. The choice of everyday daily finances is influenced primarily by convenience, and it is yet not characteristic that cheaper solutions are deliberately searched.

Most conscious are people in choosing a mortgage product, but more than 30% of the people still select from offers of one but not of several institutions, and almost 37 per cent do not consider deliberately in details the costs of banking services.

Financial product knowledge leaves also much to be desired. Most people, about 82%, do not plan to get informed about new banking services, and those who are interested, are primarily choosing traditional branch channels.

In 2014 the most popular form of payment was the familiar yellow postal checks (80%); only 32% of the respondents were using direct debit. The most popular form of saving – although with decreasing tendency – was still the time deposit. Regarding the payment methods were two years later still the traditional access channels the most popular ones (73% of respondents indicated to make payments with yellow postal check), but there was a perceptible slow progress in utilization of the electronic channels.

In spite of the relatively high digital maturity of the Hungarian population, people are still not much interested in using innovative banking services. This may curb a quick spread of digital services. The role of the Internet communication interfaces increases, but people typically prefer to consult a bank branch, or to listen to their family members, and their friends when choosing banking services. It seems that the general public is not yet prepared to accept a purely direct banking model; for the time being only a narrow stratum of people can be impressed by well-defined digital product structure with low account maintenance fees, as well as with fast and simple digital administration. However, for the financial institutions the differentiation would be extremely important, as currently 36% of the population do not perceive significant differences among the banks, and still not show active market watching attitude. Those people, however, who switched to digital banking services, are characteristically satisfied with them.

Accordingly the focus of financial education in Hungary should focus on increasing of awareness of alternative products and services, raising conscious product choice and promote faster switch over to digital services.

Events of Money Week and their significance

During the financial and economic crisis that broke out in 2008, the most unfavourable scenario unfolded due to the development of a general crisis in confidence. Financial markets froze, international trade came to a standstill, and confidence was shaken in the entire financial intermediary system. Among these problems, the restoration of trust proved the most time-consuming task, since this cannot be resolved with money or PR messages. To restore trust requires a long series of coordinated measures by responsible players. One important element of this is to increase financial literacy. Wim Mijs, chief executive of the secretariat of the European Banking Federation, referred to this when he said: *"After the crisis, banks need to regain the trust of society. European Money Week [an organized transfer of financial literacy and knowledge] is a way to give back, to create an open dialogue and to build bridges with society and institutions." (*http://www.europeanmoneyweek.eu/latest/a-year-on-european-money-week-2016-to-take-financial-education-to-the-next-level/*)*

The creation of financial trust – even in the event of successful operation of banks – is not possible through a passive, go-slow approach. This can only be based on meaningful dialogue between banks and every layer of society, and increasing financial knowledge within society is indispensable for its success, since it is scarcely possible to conduct an effective and open dialogue with asymmetrical levels of knowledge and in an atmosphere of distrust.

Considering that it is almost impossible to insert the development of financial literacy into traditions-based school teaching as a new subject of study, the focus is on organizing thematic days or weeks. The holding of thematic days is known at the international level as well, so that the introduction of a "money week" presented no great difficulty. It is also worth highlighting the noteworthy events of **Global Money Week (GMW).**

GMW is an annual global celebration, initiated by Child & Youth Finance International, with local and regional events and activities aimed at inspiring children and youth to learn about money, saving, creating livelihoods, gaining employment and becoming an entrepreneur. Previous Global Money Weeks have reached:

- 2016 – 7 million children & youth, 132 countries, 13,950 organizations, over 33,278 activities;
- 2015 – 5.6 million children & youth, 124 countries, 962 organizations, over 3,000 activities;
- 2014 – 3 million children & youth, 118 countries, 490 organizations, over 2,000 activities;
- 2013 – 1 million children & youth, 80 countries, 400 organizations;
- 2012 – 33,000 children & youth, 21 countries (Child Finance Day/Week).
  (http://www.globalmoneyweek.org/about/about-global-money-week.html)

In Europe, the financial sector – through the largest organisation representing banks, the European Banking Federation (EBF) – has likewise taken up the gauntlet by virtue of its interests and responsibility, contributing substantial means to the development of financial literacy. In Europe, the EBF involved national banking associations in putting together the events of "Money Week" in 2015. Increasing its commitment was the positive impact seen on almost all areas of the financial sphere: "Financial education can certainly contribute to a healthy economy, but it should also be accorded the place it merits in society. Through European Money Week, the banking sector is taking responsibility for financial education and striving to develop real expertise amongst current and future customers." *(*http://www.europeanmoneyweek.eu/latest/a-year-on-european-money-week-2016-to-take-financial-education-to-the-next-level/*)*

When elaborating the national programmes of Money Week, the focus was placed on children of school age. As an emphasized requirement precisely because of the youth of participants, no specific financial institution or banking service can be promoted within the context of Money Week, but only brand-neutral teaching materials can be used to increase financial knowledge and literacy. "In our world so full of financial uncertainty, one thing is clear: we cannot expect the coming generations to be financially literate if our educational institutions do not become more aware of its importance. Financial education has often been relegated to the background because it is viewed as something that children will learn naturally as they grow up. However, this is not necessarily the case. Some adults have problems understanding the basics and managing their money. Now is the time for teachers, educators and institutions to examine themselves and to identify where the gaps are." (http://www.europeanmoneyweek.eu/latest/educators-at-work-bringing-financial-education-into-the-classroom/)

The aim of European Money Week is to raise public awareness on financial education and financial literacy through a series of events both at national and European levels. Ultimately, the objective is to improve the level of financial education in Europe, in particular for students at elementary and secondary schools. Exchanging ideas and information about good practices can provide inspiration for anyone in Europe who is, directly or indirectly, involved in financial education.

1. European financial literacy levels are below those for previous generations

According to the Organisation for Economic Co-operation and Development (OECD), whose findings are confirmed also by recent surveys, our society faces worrying low levels of youth financial literacy and in many cases, significantly lower levels than previous generations.

One out of three clients of European financial advisers have a below-average understanding of financial concepts, combined with little interest in receiving detailed information on their investments.

When measuring women's knowledge of basic financial concepts, it appears they are less likely than men to answer correctly and even more likely to specify that they do not know the answer.

2. Personal finance in the school curriculum can make a difference

As the level of understanding of financial concepts, services and products affects individuals' financial decisions, ensuring at least a basic understanding of those concepts is crucial. Better-informed financial decisions will not only positively affect the economy as a whole but also individuals themselves.

Given today's complexity in financial services, but also young people's increasing exposure to banking (digital payments, mobile banking), the financial education process has to start early in life (OECD, 2005). Financial education as such is probably not the unique solution, but ensuring children have the tools to understand their financial environment is key.

To be effective and to encourage behavioural change, financial education should therefore be taught before the young generation engages in major financial transactions and contracts.

Parental education is of course important but "…if we leave it to the parents, we are accepting that we have an unequal society." (Annamaria Lusardi). Familiarity with financial concepts accounts for as much as 50% of the wealth gap between affluent and low-income families. It shows school education can be a great equalizer.

3. Parents and teachers need tools and training

*"It starts with the parents. No one can replace the parents as the main guide for children, for students to deal with money. There has been research that shows that people who grow up where the parents have told them about money are considerably better informed and more careful with their budget than other children." (Wim Mijs) (*http://www.europeanmoneyweek.eu/latest/no-one-can-replace-the-parents/ *)*

There is a clear link between financial literacy and family backgrounds, economic as well as educational. Those who are most financially literate disproportionately come from highly educated and financially sophisticated families (Lusardi, Mitchell and Curto, 2010 and Atkinson, Massy, 2012).

A lack of financial education does not only affect children. Many parents and teachers lack confidence in teaching money management skills or consider that talking to a child about money is almost as hard as presenting difficult other subjects such as sexuality.

It shows parents and teachers need proper tools and training to be able to transmit their knowledge and make sure their descendants grow into responsible and independent adults.

4. Personal finance is a survival skill

Like it or not, personal finance is a reality in the post-financial crisis world. What do today's young people need to know about banking and money management as they get ready to take part in an increasingly consumerist society?

The financial crisis proves that a good understanding of basic financial concepts can make the difference.

Mastering personal finance is essential to ensure survival in developed countries, both for working or unemployed people.

5. Tons of material and good practices are available

A wide variety of tools are already available such as books, board games and online games. as well as teaching materials.
(http://www.europeanmoneyweek.eu/latest/five-things-you-should-know-about-financial-education/)

As we have already mentioned, national banking associations formulated programmes in their own countries within the framework of Money Week coordinated by the EBF. In this way, innovative ideas, teaching material developments, teacher and volunteer training, teaching exercises, textbooks etc. could be adjusted to local conditions. Among the efforts of national banking associations, those of the Hungarian Banking Association stand out, since close to one-third of the 300–350,000 students reached through classroom training organised within the framework of the pan-European Money Week were Hungarian. For this reason it is worth presenting the events in Hungary in 2015 and 2016.

Events in Hungary in 2015

The Hungarian Banking Association, in cooperation with the Pénziránytű Foundation, the Ministry of Human Capacities responsible for education, and the Hungarian Institute for Educational Research and Development, worked out a lesson plan and teacher’s guide for a professional lesson for three age groups (grades 3–4, 5–8 and 9–12). The topic chosen for this year was the family budget. Animations were also made to elaborate on the theme, based on the messages “Money doesn’t grow on trees!” for children in grades 3–4, “Great oaks from little acorns grow!” for grades 5–8, and “You reap what you sow!” for secondary school students. Some 660 schools answered the Money Week summons. Lessons in financial literacy were taught by 1,000 teachers and 200 voluntary financial experts – among them the Minister for National Economy – with a total of 90,000 students taking part in this thematic instruction. Follow-up surveys highlighted one deficiency: the 45-minute lessons were too short.

An adventure game on Facebook, the social network favoured by young people, offered a seven-mission financial adventure tour, in which 3,253 registered individual players and 371 school groups took part.

The media also provided exhaustive reporting of the events of Money Week, as a result of which the press coverage of the opening event was very favourable indeed, consisting of 60 significant written and online appearances, five TV reports with national coverage, as well as one national and one regional radio report.

Events in Hungary in 2016

Programmes were further developed based on the experiences of the preceding year. In this way, topics for school teaching were broken down into four age groups: grades 3–4, 5–6, 7–8 and 9–12. Lesson plans and teacher's guides were drawn up for three 45-minute lessons. The motto was "Knowledge pays interest!", while topics drew attention to financial planning and frugal saving. Ministerial support strengthened, thanks to which a total of 1,435 teachers and 250 volunteers delivered the three-part lecture series to 102,000 students in 788 schools. The emphasis this year was again placed on preparing teachers, as this is one of the guarantees of successful and productive knowledge transfer.

The National Bank of Hungary, the Hungarian Banking Association and the Pénziránytű Foundation, the latter established by student loan provider Diákhitel Zrt., played vital roles in the activities of Money Week in Hungary. The textbook "Iránytű a pénzügyekhez" (Finance Compass) was created with the latter's support, which conforms to ministerial decrees on education. The textbook, aimed at students in grades 9–10, deals in 65 chapters with the topics of "Our everyday finances" and "Living in a market economy" through the everyday activities of an average family. In keeping with durable textbooks in Hungary (usable over several years), the book was published in hardback in 40,000 copies. Based on feedback from students and teachers, the textbook is practically oriented, contains exciting stories, is easy to learn and is built on an up-to-date curriculum.

Media appearances were also satisfactory in 2016, with four national TV channels, two national and two regional radio stations, and some 60 significant written and online press sources reporting on the events of Money Week.

Having presented the results in Hungary, we return to the European scene and the main messages.

Money, money, money! One way or another we're all affected by the stuff. So, understanding the basics of finance, getting acquainted with its intricacies, and generally improving our ability to manage money should be a top priority for everyone. We offer you 20 tips to make your financial life easier: (http://www.europeanmoneyweek.eu/latest/20-tips-for-a-smooth-financial-life/)

1. **Understand your financial situation.** The first step to being able to manage your money is to know where you stand and which steps you can take. Be realistic and take the time to analyse the situation until you feel comfortable enough to make decisions.
2. **Set financial goals and plan how to reach them.** Being organised and respecting the plan will help you achieve successful financial management.
3. **Read your financial documents carefully and be aware of all obligations.** Apply the Latin motto *Ignorantia juris non excusat* (Ignorance of the law is no excuse) to your finances and be well informed so as to avoid costly mistakes.
4. **Keep an eye out for new scholarships, grants, financial aid.** You never know when the opportunity of help from the state or private sector will arise.

5. **Understand your loans.** The terms of a loan need to be completely clear. If in doubt, seek clarification before taking out a loan.
6. **Don't forget about retirement.** For some people, it may seem a long way off, but when the moment comes, a retirement fund may be the key to a carefree new life.
7. **Comparisons make sense when it comes to your money.** Weigh pros and cons of your various options until you are ready to take a sound decision.
8. **Don't let anyone pressure you into unnecessary spending.** Money matters are as personal as you want them to be, so think how that spending will affect you and the people you care about.
9. **Look for ways to save money.** Use your imagination and explore new ways to put your money to the best possible use: create a budget and stick to it, look out for discounts, use coupons, re-use, cut out costly habits, and explore different angles before taking a financial decision.
10. **Set aside a small percentage of your income for unexpected costs.** This is an unpredictable world, so building up emergency savings is a sensible idea and need not affect greatly your monthly budget.
11. **Pay off all your bills and debts first.** This is the only way to avoid costs adding up and getting into unnecessary debt.
12. **Keep tabs on your credit card.** If possible, own only one credit card, shop around for the best rates and fees and set limits.
13. **Invest wisely.** Research investment opportunities that are right for you and take advantage of compound interest.
14. **Track your expenses.** This habit will help you realise how you spend your money and act accordingly.
15. **Always be honest on your tax declaration.** Be realistic when entering your expenses, keep your receipts close and consult an advisor if you have doubts.
16. **Know the difference between luxuries and necessities.** You know yourself better than anyone so take some time to carefully think about what you can afford, what you would like to have and what you actually need.
17. **Regularly check your bank statements.** The money you have and the money you think you have don't always match. Before having any nasty surprises, be always well informed of your status and report any irregularity.
18. **Know where your money goes.** It may seem more financially responsible to buy a 5-euro shirt than a basic 30-euro shirt, but then you are ignoring the quality factor.
19. **Rebalance your portfolio once a year.** Take a look at your brokerage account regularly to make sure your investment allocations still match.
20. **Become financially independent and self-reliant.** The old maxim of Work to Live, Don't Live to Work applies here – control your money so that it does not control you!

The majority of the 20 tips are also relevant in Hungarian conditions, making it easier for us to connect and participate in joint European efforts. At the same time, distinctive domestic features must be reflected in the "weighting" assigned to individual tips.

The importance of financial education in public education and in adult life

In an increasingly risky and globalised marketplace, people must be able to make well-informed financial decisions. Counter intuitively, almost everywhere one finds deficiencies in the financial literacy of people. Consumers not only in emerging or developing economies, but also in developed or advanced economies fail to demonstrate a strong grasp of financial principles that would help them to understand and negotiate the financial landscape, manage financial risks effectively and avoid financial pitfalls. Nations globally, from Germany to the U.S., or from Hong Kong to Australia are faced with populations who do not understand financial basics, and financial ignorance carries sizeable costs for consumers and societies alike.

Over the past four decades the entire world has been characterised by an overall rise in finance – often referred to as "financialisation"[16] of the economy. Broadly speaking, since the 1970s the financial sector, including securities, insurance, and credit intermediation, has expanded everywhere relative to the GDP. While some aspects of financialisation provided genuine benefits to consumers, including increased access to banking, financialisation also came with its own set of problems, including the risk of macroeconomic destabilization, illustrated by the recent financial crisis, or many customers' inability to follow or understand new financial products, often resulting in substantial harm to themselves.

A 2014 study examined the knowledge of financial investors in 18 countries. On average, the performance level reached 61 percent, which corresponds to the mark 'sufficient' (D). 45 per cent of the respondents did not know the annual return on their investment, and 64 percent did not know the fees charged as they found the required calculation too complicated. (See Figure 1)

The Programme for International Student Assessment (PISA) is a triennial international survey, which aims to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students. Since 2012 it has been possible to examine financial culture, and 18 countries joined the program in the first year (Lusardi, 2015) (See Figure 2).

Figure 1 **Global Financial Literacy Report Card**

Rank	Country	Weighted average	Percentage Score	Grade
1	Singapore	9,08	70%	C
2	Australia	8,70	67%	D
3	UK	8,56	66%	D
4	Canada	8,50	65%	D
5	Hong Kong	8,27	64%	D

[16] Financialisation: the increasing dominance of the finance industry in the sum total of economic activity, of financial controllers in the management of corporations, of financial assets among total assets, of marketed securities and particularly equities among financial assets, of the stock market as a market for corporate control in determining corporate strategies, and of fluctuations in the stock market as a determinant of business cycles.

6	China	8,05	62%	D
7	Switzerland	7,95	61%	D
8	Italy	7,89	61%	D
9	Brazil	7,80	60%	D
10	US	7,80	60%	D
11	Japan	7,73	59%	F
12	Germany	7,53	58%	F
13	UAE	7,47	57%	F
14	India	7,45	57%	F
15	Netherlands	7,25	56%	F
16	France	7,10	55%	F
	Average	7,98	61%	D

Source: State Street Center for Applied Research, 2014

Figure 2 **Snapshot of performance in financial literacy (based on PISA test)**

	Performance in financial literacy				**Relative performance** in financial literacy, compared with students around the world with similar performance in mathematics and reading
	Mean score in PISA 2012	Share of lowest performers (Level 1 or below)	Share of top performers in financial literacy (Level 5 or above)	Gender difference (Boys - Girls)	
	Mean score	%	%	Score dif.	Score dif.
OECD average-13	500	15.3	9.7	1	2
Shanghai-China	603	1.6	42.6	-1	0
Flemish Community (Belgium)	541	8.7	19.7	11	9
Estonia	529	5.3	11.3	-3	5
Australia	526	10.4	15.9	-3	18
New Zealand	520	16.1	19.3	3	12
Czech Republic	513	10.1	9.9	6	19
Poland	510	9.8	7.2	3	2
Latvia	501	9.7	4.6	-11	1
United States	492	17.8	9.4	1	1
Russian Federation	486	16.7	4.3	1	14
France	486	19.4	8.1	-6	-24
Slovenia	485	17.6	5.8	-8	-8
Spain	484	16.5	3.8	6	4
Croatia	480	16.5	3.8	5	2
Israel	476	23.0	8.5	-6	-5

Slovak Republic	470	22.8	5.7	-3	2
Italy	466	21.7	2.1	**8**	-14
Colombia	379	56.5	0.7	0	-5

Note: Countries/economies in which the performance difference between boys and girls is statistically significant are marked in **bold**. Countries and economies are ranked in descending order of the mean score in financial literacy in PISA 2012.

Countries/economies with mean score/share of top performers/relative performance **above** the OECD average-13 Countries/economies with share of lowest performers **below** the OECD average-13
Countries/economies with mean score/share of top performers/share of lowest performers/relative performance not statistically different from the OECD average-13
Countries/economies with mean score/share of top performers/relative performance **below** the OECD average-13 Countries/economies with a share of lowest performers **above** the OECD average-13

Source: OECD, PISA 2012 Database, Tables V1.2.1, V1.2.2, V1.2.3 and VI.3.1.

In this context research started to explore intensively whether individuals are well-equipped to make financial decisions. According to research findings, many people often fail to understand even basic financial concepts, particularly those relating to bonds, stocks, and mutual funds or the terms and conditions of consumer loans and mortgages. The level of financial literacy varies according to education and income levels, but evidence shows that even highly educated consumers with high incomes can be just as ignorant about financial issues as less educated, lower income consumers. Notable discrepancies have been found between self-reported and actual levels of financial literacy. So, for example while particularly poorer and elder people display low levels of financial literacy, they often rank themselves highest in terms of financial knowledge though they are actually less informed than the average. Unfounded self-confidence combined with a lack of experience or cognitive skills put people at risk of making financial mistakes or suffering from scams and missellings. Using credit cards as an example, researcher found that the less financially knowledgeable pay a disproportionately larger fraction of fees and finance charges than do the more knowledgeable. Empirical analysis suggests that about a third of the fees and charges paid by low literacy individuals are related to lack of knowledge, even after adjustment for observable differences in income, wealth, gender, family status, and other factors.

Surveys demonstrate that demographic characteristics are also significant explanatory factors for proven differences in financial literacy: the financial literacy of women is often weaker than of men; elder people are less literate as younger people; and although more educated people are typically more informed, education is far from a perfect indicator of financial literacy. There are also important ethnic/racial and regional differences observable: city-dwellers are better informed than their rural counterparts. In the U.S., Afro-Americans and Hispanics and in Europe the Roma are relatively less financially literate than others. Research also found that financial literacy increases sharply with income or that financial literacy is lower among those who are divorced, widowed, or separated.

While the aforementioned differences are common across the countries, it is also evident that certain characteristics and aspects of financial literacy vary considerably from country to country. (See for example Figure 1 and 2.) For instance, there are considerable differences observable in financial attitudes and behaviours between countries that have financial systems that rely more on banks (or bank-like organizations), and others, which rely more on financial markets, such as the stock and bond markets. Researchers are now striving to better understand the complexity and interaction of the identified factors. Their findings show that the aforementioned cultural variables determine many economic choices.

A country's preference for bank- or market-based financing is associated with the culture's tolerance for ambiguity. Cultures that are less comfortable with ambiguity are more likely to rely on bank-oriented financing systems. Bank financing is based mostly on relationships and use of collateral, while market financing is based mostly on social trust among strangers, high levels of disclosure, and faith in contracts.

Bank-oriented systems rely on relationships to enforce financing contracts. By contrast, investors and savers in market-based systems expect contracts to be enforced by means of efficient investor protection laws that are effectively enforced. In addition, greater disclosure levels, business expectations, business behaviour, and reputational concerns further strengthen enforcement of contracts in a market-based financial system.

Aside from demographic and cultural factors, differing patterns of economic history may also explain idiosyncrasies in financial education. For example, in the socialist era in Hungary and other Central European, in an environment of deliberately underdeveloped financial culture without financial investment forms other than bank deposits, bad memories of the erosion of financial wealth, negative real interest rates and an extreme confidence in real estate's wealth-preserving quality, households preferred real estate to financial wealth. Inflation had been rising steeply in the last years of socialism, peaking at 35 per cent in 1991. Simply put, hyperinflation-averse households staged a flight to real estate assets. This portfolio rearrangement led to a housing price bubble by the end of the 1980s, which burst in the first half of 1992. After the regime change, the state withdrew both from social housing and from the housing loan market. As a consequence, the housing market collapsed and the supply of housing loans virtually ceased to exist. Entry into the housing market required much more investment capital, whereas banks were lending only to firms at the time. The liquidity crunch was due not only to the low level of credit supply tied to the immaturity of the financial system and the state's exit from the loan market, but also to the high level of inflation, i.e., high nominal interest rates. The ratio of liquidity constrained households was 83 per cent in the period of 1970-1998, while the same ratio for the period subsequent to 1998 was only 20 per cent). These historical patterns explain the reasons behind the housing bubble, as well as the proliferation of low nominal interest rate FX housing loans in these countries. (Badics-Szikszai)

Accordingly, while shortcomings in financial literacy can be observed generally anywhere, their effective mitigation requires differentiated approaches from country to country. Financial literacy rates vary substantially across countries by age, gender, race, socio-economic status, culture, as well as by other factors already mentioned. When designing the national financial education strategy countries may learn from each another, although there is no one-size-fits-all model. Developing sound financial education programs must therefore take into account the mentioned variables as well as national preferences, different cultural approaches and learning styles. (For instance, in financial education one finds two diametrically opposed approaches: the French-led school that favours deep harmonisation and high levels of consumer protection, and the Anglo-Saxon “caveat emptor”, light-touch attitude that requires consumers to take joint responsibility for their financial decisions.) In fact, the main objective is to tailor such programs to populations’ needs and to the countries’ circumstances (including the maturity of the financial system as well as the regulatory and market-practices framework). Accordingly, while in some countries the primary objective of the national strategy for financial education is to support financial inclusion efforts, in (many) others the strategy is aimed rather at empowering consumers and helping them to address the challenges of the evolving financial and socio-economic landscape.

In another aspect, financial services should be adapted to the changing circumstances that real life poses to common people, rather than being designed for the mythical “ideal customer”, who never experiences any difficulty. Common people’s interaction with any consumer market is affected by the limits of their knowledge and by their personal susceptibilities. In particular, they face serious challenges in respect to financial services involving long-term commitments, as well as complex products and information. Logically, financially savvy consumers are expected to make better decisions. However, lack of sufficient understanding stretches the extent of consumers’ susceptibility, which depends on the interaction between the consumer’s personal traits and habits, and the prevailing marketing practices. Moreover, susceptibility has not only to do with the situation and literacy of the consumer. It can be caused or exacerbated by the business practices of firms: it is a sad experience that many consumers in susceptible circumstances are not always receiving fair treatment from their financial services providers. The impact of susceptibility is strong and many people have to cope with difficult situations with limited resources, energy and time. In such stressed situation, being confronted by extensive usage of legalese jargon, lengthy and complicated forms, or by a complex telephone menu system that gives no option of talking to a real person; a call handler without time or inclination to listen, or a system that fails to record what may be distressing circumstances and forces customers to repeat themselves at every point of contact, can create a spiral of anxiety and difficulty that often results in detrimental outcomes (See Figure 3).

Figure 3 **Types of access problems**

Across consumer journey	Consumers cannot communicate with firms using a channel that suits them, at a cost they can afford or that represents value-for-money						
Researching & choosing financial services	Consumers cannot easily find out about different products and services using a communication channel that suits them	Consumers cannot easily compare key features of different products and services, to help them choose the right one	Consumers cannot easily understand the terms and conditions of products and services, to help them choose the right one	Consumers cannot easily discuss what they're looking for or ask questions pre-purchase			
Buying financial services	There are no products or services on the market that meet consumers' needs	Consumers cannot find the product or service they want at a price they can afford or that represents value-for-money	Consumers are turned down for reasons that are not clear or are not properly explained	Consumers are turned down for reasons that are perceived to be unfair	Consumers are not signposted to other providers or sources of help when they are turned down or cannot find what they want		
Using and switching financial services	Consumers pay more to use non-standard products or services	Consumers pay more than they expected to use a product or service	Consumers cannot use the product or service in the way they want	Consumers cannot pay in the way that suits them without incurring extra costs	Consumers cannot easily talk to someone if they have a concern or a query	Consumers cannot easily switch or exit a product or service	It costs consumers more than expected to switch or exit
Getting help	Consumers cannot easily access regulated financial advice	Consumers cannot easily access money advice [1]	Consumers cannot easily make a complaint or seek redress				

[1] The term 'money advice' includes both generic money guidance and debt advice.

The highlighted problems are those, which are closely related to the financial literacy

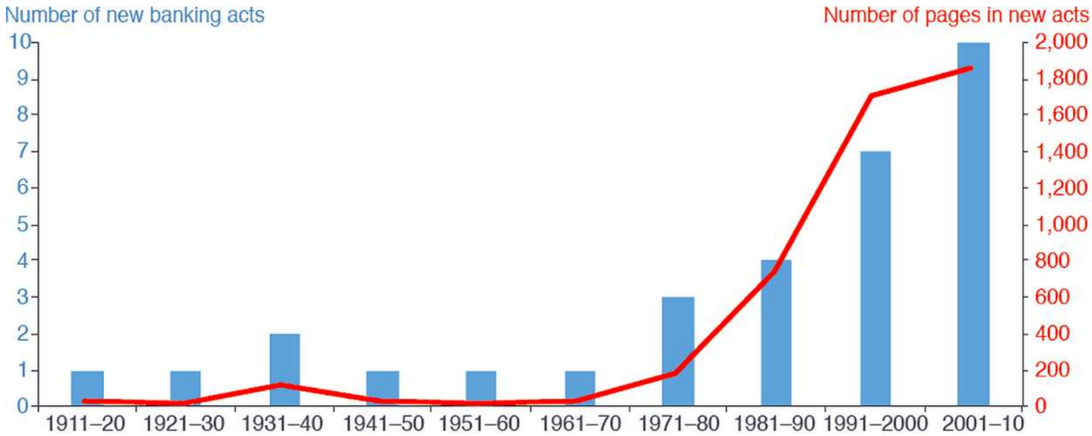
Source: (FCA, 2016)

In response to these conditions, for the 2007-2013 period the adopted EU Consumer Policy Strategy aims to empower 493 million EU consumers to enhance their welfare and protect them effectively. The Strategy defines an empowered consumer as someone who has "real choices, accurate information, market transparency and the confidence that comes with effective protection and solid rights". Empowerment is also tied to consumer capabilities and the strength of the infrastructural framework (regulations, public authorities, consumer organisations, etc.). This premise is based on an important corollary, namely that financial literacy and regulation are complementary and interchangeable – at least, to a certain extent.

However, caution is advisable to avoid an overdependence of this nexus. It is unreasonable to expect the average consumer to have made significantly better mortgage choices and accumulated sufficient precautionary savings to weather a recession even with a proper financial education. Impartial observers generally admit that research to date does not establish a strong causal chain leading from financial education to higher financial literacy, to better financial behaviour, or to improved financial outcomes, mainly due to biases, heuristics, and other non-rational influences (e.g. greed and herding) on financial decisions.

Yet, efficient financial education is not to be dismissed, as it may help people to orientate, as well as to assume and accept responsibility when making choices and decisions. Moreover, even a slew of legislative acts aimed at strengthening the protection of consumers will not live up to the well-meant intentions if the people meant to benefit from these rules ignore or do not understand them (See Figure 4).

Figure 4 **Change of legislative complexity over the past century in the U.S.**



Source: Federal Deposit Insurance Corporation, Important Banking Legislations

The importance of financial education had been recognised already in the early 2000's[17]. The OECD launched its financial education project in 2002, developing policy analysis and recommendations on principles and good practices for financial education and awareness. Building on this experience, in 2008 the OECD established the International Network on Financial Education (INFE) that facilitates information sharing, research and the development of policy instruments and analytical tools. More than 240 public institutions from over 107 countries are members of the INFE and collaborate in the development of data, comparative analysis and global policy instruments in a consistent and systematic way. In addition, the OECD operates the International Gateway for Financial Education as a global clearinghouse on financial education, providing access to a comprehensive range of information, data, resources, research and news on financial education issues and programmes around the globe.[18]

In particular, in the wake of the Great Recession there has been a significant appreciation of the role of financial education in improving the levels of financial inclusion around the world, as highlighted by three sets of principles, endorsed by G20 leaders: The G20 Principles on Innovative Financial Inclusion; the G20 High-Level Principles on Financial Consumer Protection and the OECD/INFE High-level Principles on National Strategies for Financial

[17] See, for example, the remarks by Alan Greenspan, then Chairman of the Board of Governors of the US Federal Reserve System, before the National Council on Economic Education, in Chicago on 26 October 2001.
[18] See more at the website of International Gateway for Financial Education: http://www.financial-education.org/home.html

Education.[19] Each set of principles identifies the need for a combined policy response through an integrated framework of financial inclusion, financial education and consumer protection. This same triad is also apparent in the Maya declaration (2011), endorsed by regulatory bodies in developing and emerging countries, which includes the commitment to recognise consumer protection and empowerment as key pillars of financial inclusion efforts to ensure that all people are included in their country's financial sector. The consistent themes running through various definitions of financial education include: (1) being knowledgeable, educated, and informed on the issues of managing money and assets, banking, investments, credit, insurance, and taxes; (2) understanding the basic concepts underlying the management of money and assets (e.g., the time value of money in investments and the pooling of risks in insurance); and (3) using that knowledge and understanding to plan, implement, and evaluate financial decisions.

Many, if not most of the programs designed for improvement of financial literacy operate under the implicit assumption that increases in information and knowledge will lead to changes in financial management practices and behaviour. Researchers have found that the higher a consumer's financial knowledge (based on a quiz score), the higher the probability that the consumer undertook more positive financial management behaviours and used more financial products and services. Persons who were more knowledgeable (again, measured in a quiz) were more likely to engage in more cash-flow management, saving, and investment behaviours.

Figure 5. **Status of National Strategies**

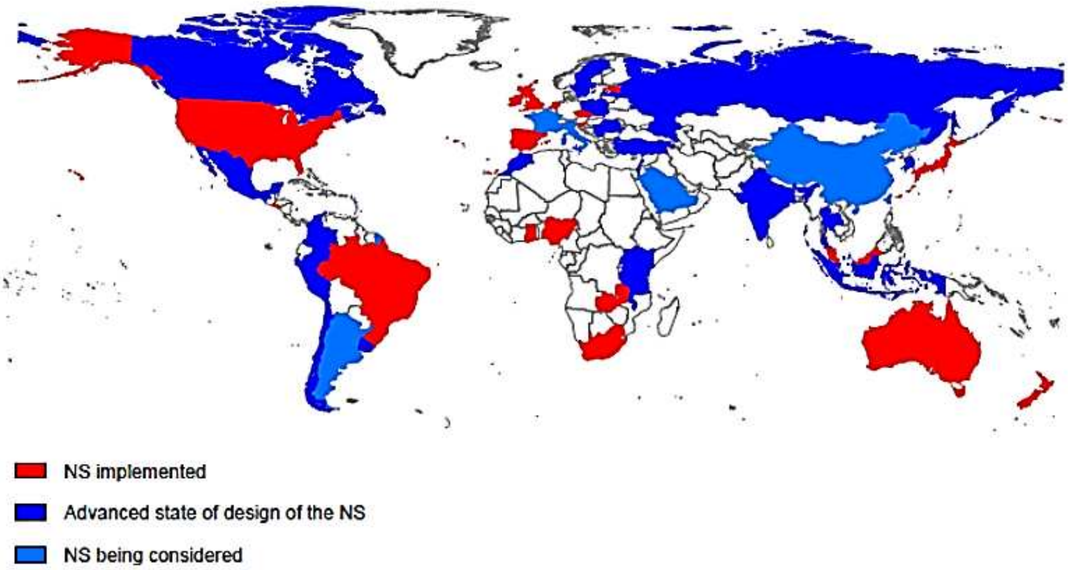
National Strategy	**Number**	**Countries**
Countries that have implemented a National Strategy	20 (**7 G20**)	**Australia, Brazil,** Czech Republic, El Salvador, Estonia, Ghana, Ireland, Japan, Malaysia, Netherlands, New Zealand, Nigeria, Portugal, Singapore, Slovenia, **South Africa, Spain, United Kingdom, United States,** Zambia
Countries that are at an advanced state of design of their National Strategy	25 (**7 G20**)	Armenia, **Canada**, Chile, Colombia, **India**, **Indonesia**, Israel, Kenya, **Korea**, Latvia, Lebanon, **Mexico**, Malawi, Morocco, Peru, Poland, Romania, **Russian Federation**, Serbia, Sweden, Tanzania, Thailand, Turkey, Uganda, Uruguay
Countries that are considering the design of a National Strategy	5 (**5 G20**)	**Argentina**, **China**, **France**, **Italy**, **Saudi Arabia**

G20 countries are indicated with **bold** letters

Source: (OECD and Russia, 2013)

[19] The three sets of High-level principles on innovative financial inclusion (http://www.g20.utoronto.ca/2010/to-principles.html), on financial consumer protection (http://www.oecd.org/regreform/liberalisationandcompetitioninterventioninregulatedsectors/48892010.pdf), and on national strategies for financial education (http://www.oecd.org/finance/financialeducation/OECD_INFE_High_Level_Principles_National_Strategies_Financial_Education_APEC.pdf), which have been endorsed by G20 leaders since 2010, also recognise that the integration of these three elements is essential to reinforce the financial system and enhance the financial wellbeing of individuals.

Figure 5. **Status of National Strategies illustrated on map**



Source: (OECD and Russia, 2013)

Financial knowledge can be statistically linked to financial practices related to credit as well as cash-flow management, saving, and investing behaviours. Financial knowledge and financial learning experiences – in particular, learning from family, friends, and personal experiences – were the variables that were consistently associated with more positive financial management behaviours in these four areas. This pattern indicates that better knowledge and more experience can lead to improvements in financial practices, albeit the causality could flow also in the other direction – or even both ways.

Although empirical evidence shows that financial education is beneficial and has a positive impact on the lives of consumers, it is often difficult to measure the kind and degree of that impact. While knowledge, attitudes, behaviours, and outcomes (money saved or debt reduced) are often the metrics, the opinion of researchers and program evaluators is beginning to coalesce around the desirability of outcome measures, because increased knowledge alone does not necessarily changes the behaviour. The area of behavioural biases is where further research and new methodologies can bring additional results.

Psychological studies show that people often act in apparently irrational ways owing to greed and fear cycles inherent in the human psyche. It is hard-wired with two traits: short-termism and herding. Both distort perceptions of reality and give rise to various mistakes that conspire against sensible investment decisions (Baker-Kent, 2014):

- **Overconfidence**: few investors rate their own abilities as below average. They tend to be overconfident with respect to making gains and oversensitive with respect to losses. They typically underestimate the impact of inflation, longevity and morbidity in their retirement planning.
- **Overtrading**: overconfidence, in turn, results in market timing that hurts investment returns and increases portfolio costs. Investors attribute good outcomes to their investment skills and poor ones to bad luck. Investing verges on speculating as investors chase the next rainbow.

- **Fear of loss**: investors tend to weigh potential losses more heavily than potential gains. They are more likely to sell a winning position than a losing position, despite tax incentives that encourage buy-and-hold investing.
- **Anchoring**: investors tend to stick to their initial asset allocation decision even when circumstances change. They display strong inertia and follow the path of least resistance. Procrastination often dominates financial decisions, as does the belief that the past always foretells the future.
- **Staying in the comfort zone**: investors display future avoidance behaviours and dislike choice overload. They also choose familiar assets because they associate familiarity with low risk. The result is often extreme allocations where portfolios are either heavily concentrated or widely diffused.
- **Chasing yesterday's winners**: investors are often guided by stereotypes. For example, stocks in prominent companies will always be a sound investment; notwithstanding the fact that their share prices already factor in their quality and performance.
- **Herding**: Investors believe in the wisdom of the crowd. Herding is especially prevalent at times of market stress or euphoria, ensuring that investors invert the conventional wisdom of buy-low/sell-high. Pro-cyclical investing is often the norm.

Responsibility for consumer education

A 2010 survey of financial regulators from 142 economies showed that 88% had some aspect of financial inclusion, financial education or financial consumer protection in their mandate[20]. In total, 45% of the economies had a strategy document for the promotion of financial inclusion, 58% had taken some responsibility for financial literacy, whilst 68% were focussing on consumer protection.

In EU Member States financial education is delivered through a variety of channels. Although surveys show that financial education intervention may have more effect on young (and even very young) people than on adults, whose habits and decision-making processes are more difficult to modify, very few EU member states' or regions' educational curricula feature financial education. This is all the more regrettable because in most countries young people around the ages of 15 to 18 already face one of their most important financial decisions: whether to invest in college or higher education, and if they start to work, they need to open their own bank account and make some decisions concerning their pension plan.

Some national public authorities, including financial regulators, have recently taken steps to launch strategies to improve financial capability (examples here include the UK and the Netherlands). In other countries, financial industry associations have developed (and funded) financial education schemes in conjunction with other relevant stakeholders such as consumer associations or community groups (e.g. the European Banking Federation and its member organisations, German Insurance Association etc.). In the majority of cases, individual financial institutions provide some kind of education scheme, from the development of explanatory brochures or websites (branded or unbranded), through the preparation of their staff to deliver training sessions in schools.

[20] See the Annual Report 2010 of the Consultative Group to Assist the Poor (CGAP) – an independent policy and research centre dedicated to advancing financial access for the world's poor, supported by over 30 development agencies and private foundations and hosted by the World Bank.

Also, the European Commission undertook efforts to foster financial education efforts in Member States. As part of implementing the already cited EU Consumer Policy Strategy, in 2005-2006 DG SANCO funded the development of the “Dolceta” programme, an online training tool designed for use by adult education providers. One of the first modules developed was on personal finance, with students able to move up the levels as they increased their degree of knowledge. The information given is provided in all community languages and customised to each Member State. Since its inception the programme has undergone some changes: taking full advantage of the latest web technology and community-based internet usage, now the web-service “Consumer Classroom”[21] provides ready-to-use teaching resources on a wide range of consumer education themes, from sustainable and responsible consumption to financial literacy, amongst others.

Financial education is also supported by the Commission’s expert group, Financial Services User Group (FSUG), representing the interests of consumers and retail investors. FSUG members provide advice to the Commission, ensuring that consumer interests are taken into account in other EU financial legislation. Set up in 2010, it took over the tasks of two earlier groups, the Forum of User Experts in the area of Financial Services (FIN-USE) and the Financial Services Consumer Group (FSCG). FSUG has 20 members, who are individuals appointed to represent the interests of consumers, retail investors or micro-enterprises, and individual experts with expertise in financial services from the perspective of financial service users. FSUG meets 8 times a year in Brussels and its Chair is elected from amongst the group members.[22] The Commission (jointly DG Financial Stability, Financial Services and Capital Markets Union and DG Health and Consumers) provide secretarial services for the group.

Conclusion

In the wake of the Great Recession, the issue of financial literacy and financial education have come to the focus of attention. The aim is not to create a world in which financial education relieves/substitutes for regulation, but to empower consumers to make the right choices, to be aware of their options, to know their rights, as well as to support financial inclusion. Evidence has proven the desirability of financial education, but also that due to a number of factors it is not a “free lunch” for the stakeholders: it requires considerable human and financial resources on the tutors’ side and personal engagement on the apprentices’ side (Lauren, 2011). Although industry is often ready to share the costs of financial education, there are limits as to how far such sponsoring could go.

While protecting consumers from the dire consequences of false/biased decisions and of misconduct by some service providers, realistic cost and efficiency factors must also be considered. Shaping social security measures properly or enhancing regulation could often produce the same result at lower costs and with greater certainty than by the implementation

[21] See: http://www.consumerclassroom.eu, and in particular the theme-page http://www.consumerclassroom.eu/resources/theme/financial-literacy#.V2Kb3iiLTIU

[22] See: http://ec.europa.eu/finance/finservices-retail/fsug/index_en.htm. The Central and Eastern European Member States are represented by five members (CZ, PL, RO, SI, SK)

of laborious and large-scale education efforts. If, for example, the aim is to increase the likelihood that consumers select mortgages they will be able to afford, a cheaper option is likely to be regulation that aligns mortgage seller incentives with long-run mortgage affordability, rather than offering costly courses and lengthy (often unread) manuals. Even an improvement of basic math skills within school curricula could be more effective than using mandatory financial education to repeat math instruction throughout adulthood. Accordingly, national financial education programs must define clear objectives, and for each established goal the costs of implementation through financial education versus alternative measures should be carefully examined. Once the actual time, money, privacy and autonomy costs of financial education have been properly assessed, and possible alternatives thoroughly evaluated and deliberated, the optimal course improving consumers' financial lives can be charted.

Challenges of the digital era

The financial sector has reached an inflection point. It entered the most profound era of change since the 1970s, which brought index mutual funds, discount brokers and ATMs. No financial service provider remains immune to the ongoing disruption; each company must have an adequate strategy to harness the powerful advantages of the new financial technology ("fintech") revolution.

The three primary forces of the perceivable disruption are:

1. **Technology**. While we usually think of disruption in the relatively recent context of IT, advances in technology have been disrupting business models for centuries. The Industrial Revolution, for instance, eliminated guilds and created massive labour displacement. In our lifetime, successive waves of the IT revolution (PC, online, mobile phones, social media) have democratized data, empowered consumers and spawned scores of new industries. The next waves – the Internet of Things (IoT), virtual reality, Artificial Intelligence (AI), robotics – promise to be even more revolutionary.
2. **Globalisation**. Like technology, globalization has been upending the status quo for centuries, going at least as far back as the 15th century launch of the Age of Discovery and colonialism. Globalisation has accelerated in recent decades through trade liberalization and growth of emerging markets. These trends disrupt existing business models by creating new competitors, reordering supply chains and lowering price points. The next waves – including the emergence of Africa and a more multipolar world – will increase complexity and require flexible business models to respond to global shifts.
3. **Demographics**. Throughout human history, demographics have determined destiny. In the decades ahead, relatively high birth rates will make Africa and India engines of economic opportunity. Aging populations will transform everything from health care to real estate. Millennial-dominated workforces will reinvent the workplace. Urbanization will increase cities' economic and public policy clout, even as it strains their ability to grow in sustainable ways. Migration and immigration will have profound impacts on workforces and economic development. All these demographic shifts will require new strategies and business models. The continued evolution of these primary forces – and interaction between them – leads to disruptive megatrends.

Technology is changing many industries across the world and altering the way individuals and companies operate. Banking is no exception. While banking has been on a path towards digitisation for a number of years, it is the proliferation of smartphones that has dramatically accelerated the pace of change. We have gone from almost nobody banking via their phone to millions of people using their apps to check their accounts and make payments every day. As a result of these changes, conventional money may disappear entirely.

Sweden is full of empty wallets: cash makes up only 2% of the value of the nation's payments as Sweden tries to position itself as a pioneer in the elimination of coins and paper money. Street vendors, museums, and even churches have moved away from cash and toward plastic and electronic payments. According to a report released by Swedish Radio, by 2021 all cash could be gone within Swedish borders.

The use of technology in finance is not new, nor are the many products and services offered by new entrants to the sector. Rather, it is the novel application of technology and its speed of evolution that make the current wave of innovation unlike any we have seen before in financial services. From virtual currencies to marketplace lending and big data solutions, new technologies come with great promise for a more efficient and accessible financial system. At the same time, by creating new markets and blurring the boundaries between financial services and adjacent industries, technology-enabled innovations bring a new set of risks to the financial system, both behavioural and prudential, and has implications for human capital (e.g. increased automation leading to fewer employees). Managing risks and maximizing opportunities is essential to maintaining society's trust in the financial system and for realizing the full potential of technology-enabled innovations as they gain scale over the long term.

The financial services industry today is more focused on technology innovation than at any other point in its history; and this comes with huge investments. According to one of the world's leading information technology research and advisory companies, the Gartner Inc., banks and securities institutions have spent nearly $500 billion on information technology in 2014 alone – more than any other sector. Nevertheless, traditional financial institutions are no longer able to control the entire value chain, a trend that has effectively created a battleground for ownership of the end consumer. All these aforementioned disruptive forces have served as catalysts in enabling new entrants and have started a trend towards incumbent disintermediation.

The financial technology, or "fintech," industry has grown rapidly in recent years and may potentially increase access to or the diversity of financial services for households with a bank account and even those without one. In recent years, fintech start-ups have increased dramatically in number and have harnessed new technologies to provide financial services while sidestepping the legacy cost structures and regulatory constraints of traditional banks. Collectively, fintechs now offer services covering many of the traditional business lines of retail and other banks, from credit cards and loans to payments, cross-border transfers, and digital currencies. Trade, an early-stage, UK-based start-up, allows banks to perform know-your-customer assessments with a mobile app that also eases the path for customers applying for new accounts. Applicants complete all verification procedures and upload images of the required documents on the app.

While fintechs and other digital players are not likely to displace transaction banking business models outright, many entrants are successfully nibbling away at the edges with specialized services and customer-friendly interfaces. In addition, the increasing adoption of treasury management systems (TMS) and enterprise resource planning (ERP) platforms that can integrate and automate cash management, payment, reporting, and other functions gives treasurers a powerful alternative to bank portals, providing them with a more complete picture of their treasury operations.

Additionally, digital innovators like Amazon, Airbnb, and Uber have raised the bar for consumer expectations regarding service, speed, and convenience and have created the expectation that banks will interact seamlessly with customers through digital channels while offering human interaction at moments that matter. At the same time, fintech upstarts are increasingly disrupting the industry, eroding the profitability of traditional business lines, from lending to personal finance, payments, and retail investments. These and other players — from inside financial services and beyond — threaten to disintermediate banks' relationships with customers and transform the retail bank into little more than a utility in the eyes of consumers.

Many European retail banks have deleveraged their balance sheets, refocused on franchise customers, simplified their organizations, streamlined product ranges, and worked through their impairment legacy. This has left white space in the market for specialist players and fintechs to target specific customer niches. At the same time, European retail banks have experienced a fairly sizable migration of transactional flow out of the branches and into direct channels. This has created a dilemma for those banks: they seek to rationalize their branch networks (to reduce the cost to serve) yet to simultaneously retain their reach (to serve customers in key moments when human interaction is favoured).

Some features of the most disruptive technological changes and the development of fintechs:

- There were over 2,000 U.S. fintech start-ups in February 2016, up from 800 in April 2015 and fintech venture capital funding hit an all-time high in 2015. In Europe fewer fintech start-ups have been registered, but the 142 European fintech investments in 2015 totalled €1.8 billion.
- Use of such platforms has been further facilitated by growth in mobile phone and smartphone adoption. In Europe, unique subscriber penetration was 78.9% and is expected to grow to 82.2%. With this ratio Europe leads over all other regions.
- In Europe 38% of smartphone owners with bank accounts had used mobile banking in 2014. This ratio varied from 17% in Romania up to 50% in Netherlands.
- These platforms may also reduce the non-monetary costs of safe and affordable banking, preventing more of the underbanked from incurring the high monetary costs of alternative financial services – though in many cases they would need broadband or cell phone access.
- In 2014, 45% of UK customers who had purchased a banking product in the previous twelve months did so through the internet channel, with a further 6% claiming to have done so via a mobile device. Going forward, the banks expect this trend to accelerate, and the expectation is that, within a few short years, we will see the majority of all consumer purchases of banking products taking place through digital channels. The direct banks obviously lead the way already, with nearly 90% of Tesco Bank's sales

currently done online, and the website recently updated to accommodate a growing demand for touch-based mobile and tablet access from customers.

- Multi-channel integration: The industry is on a journey to join up the customer experience. Digital delivery demands the streamlining of processes and a simplification of product access and servicing. There will likely always be a need to do some services face-to-face and research suggests customers value the ability to be able to do this. Banks are aware of the fact that they need to make the experience a joined-up one, where the customer does not differentiate between the digital and non-digital experience.

By applying Artificial Intelligence (AI) solutions over the next three years, the most dramatic changes will be felt in the areas of trading, financial analysis and IT, according to 64%, 60% and 60% of the respondents, respectively. Large numbers also expect machine learning to materially affect risk assessment (59%), credit assessment (57%) and investment portfolio management (52%). Risk assessment and financial research are the areas where companies are most likely to experiment with machine learning applications in the next three years.

Machine learning techniques have already found application in retail investment advisory. “Roboadvisers” – investment management websites providing automated advice to investors form an area of AI coming under active regulatory scrutiny now. In their latest Financial Advice Market Review (FAMR) the UK’s Financial Conduct Authority has even gone so far as to recommend roboadvice as a cost effective way for financial institutions to “streamline advice” to their customers.

However, technology will not be able to remove the risks inherent in some financial activities, such as making bets on future events. These are likely to persist, regardless of whether humans or algorithms do the work.

Herein lays the contradiction at the core of technology. When confronted with inherently risky tasks such as making investment decisions and bets on unknown future events, over-reliance on AI can magnify systemic risks. Yet the same technology can improve the depth and quality of financial institutions’ due diligence of companies. Through their powerful data-crunching capabilities, such applications can also help identify fraud, money-laundering, bribery and other corrupt practices that more conventional methods would struggle to uncover.

Whilst innovation in banking (both wholesale and retail) is being pushed by a desire for more choice and growing consumer-demand for digitalisation, the role of digital is most powerful in its potential to help people more – whether, for example, improving financial capability or raising the quality of financial advice.

Changing customer behaviour

Customers’ expectations of the digital services their banks provide are continuing to rise, a trend fuelled by experiences customers have acquired in other sectors (e.g. “if my mobile provider/online retailer/utility can provide a specific type of service in a particular way, why can't my bank?").

Specifically:

- The propensity of consumers to buy products and services online is increasing, and banks' digital services must be as seamless and frictionless as possible. However, research shows that banks still have some way to go to deliver the experiences that customers are looking for. While the majority of UK bank customers surveyed in 2014 found their experience "easy" (70%) and "effective" (63%), fewer than half found them "enjoyable" (47%). Much of the challenge for banks then is how to create the warmth and engagement of a face-to-face exchange though a remote channel, moving digital beyond a simple driver of transactional behaviour (Daap, 2015).
- Consumers have a growing appetite for simple, easy-to-use, friction free payments that are consistently supported across channels. They have already embraced the newly reinvented, streamlined and seamless digital experiences provided by technology players like Apple, Amazon, Facebook, Google and PayPal, and they expect similar experiences from the payment services offered by their banks.
- A lack of trust in institutions has seen UK consumers demand greater transparency and clarity around the services and products they buy. This requirement to provide more information more easily will continue to intensify, with greater interest in clear fees and charges and the provision of personal financial management tools to help customers make better decisions.

Beyond the scope of technological advances and the expanding electronic financial services, it remains of course a question whether customers' technical knowledge will increase at a similar pace. It remains to be seen whether the new solutions will actually be used and how swiftly they will spread. For example, in Hungary, 84 per cent of the small and medium-sized enterprises in the South Great Plain region mentioned the use of smartphones or Internet-based services in banking, while only one in five respondents mentioned the use of mobile banking. (BBA, 2015)

Anyway, with the help of the banking app store, customers can decide independently, quickly and conveniently which products and services they would like to access. The different banking apps or web-based financial services can be offered for a fee or free of charge. The diverse applications, products and services show ratings and recommendations that are meant to make it easier for customers to decide. In-house recommendation algorithms are used for this purpose. Interactivity plays just as much of a role as the feeling that one is permanently in a secure IT environment and able to communicate and act without being under observation.

Essentially, customers desire a discreet but individually configurable and intelligent (i.e. self-learning) financial assistant in the shape of an app or else web-based access to their own bank, and would also enjoy a voice activation feature. The idea of the assistant is to support customers in all their daily financial business with data and algorithm-based services. It fulfils the formula for need satisfaction introduced at the beginning of this report. In the future it will no longer make any difference whether services are accessed via fixed-line or mobile internet on a given type of device (tablet, smartphone, wearable etc.). There has to be guaranteed problem-free access to their bank and/or online banking on all channels. Similar to social network platforms, modern online banking will offer a service enabling customers to individualise and creatively design their interface. In the process they can put freely selected and often accessed services in the foreground, i.e. in a personal and secure area. Via mouse click, touch or voice activation, customers will also have the option to communicate in confidence and securely with their advisor or arrange for a face-to-face meeting when needed. Another conceivable option is an interface between a customer's online account and the digital calendar of a bank employee allowing the customer to interactively enter a preferred appointment time.

As a standard service, modern online banking will offer customers an automated (self-learning) record of their income and expenditures, which can be presented in chart form or categorised – via mouse click/touch/voice activation – by type or size of expenditure or by date, for instance. On this basis, it will also be possible to interactively calculate customers' differing financial needs in the shape of scenarios. The bank offers proposed are based on the collected and evaluated behavioural data in respect of customer spending patterns or propensity to save or take risks. For example, it is possible to provide calculations showing customers a chart of consumer loans, property mortgages and retirement plans corresponding to their financial behaviour. Consideration will also be given to external dynamics (interest rates, securities quotations and exchange rates) which can be changed interactively in the scenarios and forecasts. Additionally, customers can configure individualised services, such as alarm signals or text messages, to inform them of overdrafts or unusual account activity recognised by an underlying self-learning algorithm.

Managing a credit card or bank card (application, cancellation, change of limit, notification of loss/theft) has to be every bit as easy as transferring very small amounts to friends and acquaintances via the contact and address list on mobile devices or wearables. Various external micro-payment firms offer such services. The banking app store makes available not only in-house products, but also external offers. In the future, transfers offered virtually in real time could become an attractive bank service. For customers, anonymity on digital channels will (again) play a greater role after it emerged in the Snowden affair that we all have a digital twin on the internet. Therefore, a modern payment service could prove attractive and lucrative if it enables customers to pay digitally, either at the bricks-and-mortar point of sale (PoS) or on the internet, and nonetheless remain anonymous.

If customers are on a secure online banking platform and want to configure products and financial services online, a bank advisor should be able to seamlessly continue developing this configuration on other channels without having to reboot systems or re-enter master data. Up to the signing of a contract or the conclusion of a sale transaction, customers of a modern digital bank should no longer notice that they are using different channels. Ideally, customers should not have to leave the banking ecosystem during online banking visits or the individual transaction steps between the initiation, consultation, configuration and signing of a financial transaction.

However, there are also challenges for consumers. Banks increasingly use modern analytical techniques with the mandatory consent of the customer and transparent communication channels to derive additional insights from the personal data provided by the customer. Transparency measures help to overcome customer mistrust and minimise data protection infringements. Transparency should cover all steps of analysis that is not only the collection of data and its fusion with other data sets, but also the actual analysis itself and any subsequent use of the findings. In this context, communication must be simple and understandable so that customers can follow the individual steps and select them at will. Pages of complicated “General Terms and Conditions” in complex legalese and small print, and perhaps paper-based at that, are not exactly a good model to fall back on. Customers have a right to know what will happen with all the data collected on them and to decide on their data sovereignty themselves. Therefore, banks should lead the way in allowing customers to indicate their choices in a short, simple (digital) application list stipulating what should happen with their personal data and which algorithms should be used. There has to be a guarantee that any change in general terms and conditions desired by the customer can be granted at any time. It is fitting here for banks to address their customers personally in order to inform them and raise awareness of related issues. Incidentally, confidence-building measures on the transparency of business terms and contractual agreements should apply to all companies, including those outside the banking sector.

Banks must assume a pioneering role in this respect. Naturally, a stringent regulatory regime compels them to comply with certain data protection aspects ex ante. However, additional self-imposed, i.e. voluntary, measures, such as communicating how the underlying algorithms work, could enable the banks to make their analysis practices even more transparent, in contrast to many internet platforms. These confidence-building measures give the customer the possibility of having informed and self-determined knowledge of what happens when (personal) data is passed on and/or agreeing to an analysis that can maximise customer utility in terms of financial services. This can also help to overcome the “black box” character of big data.

A fair regulatory framework applicable to all stakeholders

Digitisation of banking services does not just provide challenges to banks, but also to regulators charged with reducing misconduct and ensuring financial stability. There is always a risk that regulation can squeeze misconduct and prudential risk out of the regulated sector into the non-regulated sector. However, this regulatory arbitrage can be massively amplified and accelerated by the digitisation of financial activities. This was what happened with payday lenders, whose activities were limited in scale until the advent of internet and big data, which enabled their businesses to balloon, unconstrained by regulation. It is not in the interests of either consumers or the economy if digitisation leads to misconduct and risk being squeezed out of the regulated sector to the unregulated sector. The balance that regulators must strike is protecting consumers and ensuring stability, while not hampering innovation or competition. That can be done by focussing on regulating activities rather than merely institutions, ensuring a level playing field between the banking and non-banking sector.

At this juncture one must not forget that for regulatory reasons established banks are not allowed to correlate personal client data from one business division with their data from another in order to possibly gain new insights from the newly acquired data sets. Banks have to observe compliance guidelines, which have to ensure that there can be no exchange of information between individual business divisions managed by different functions. This combats a potential conflict of interest (Chinese walls). Of course, these strict regulatory guidelines also apply to the underlying IT systems and (customer) data sets. For the new competitors from the non-bank sector in particular, however, this aspect is scarcely a factor. This means that digital ecosystems still have a knowledge lead here in information terms. It follows that for regulatory reasons traditional banks permanently lag one step behind in the catch-up process. So, what is required is a regulatory environment that provides fair rules and a level playing field. This is the only way to guarantee that individual market players are not given preferential treatment to the detriment of traditional banks. As long as traditional banks guarantee that they will neither monetarise personal data by selling them to third parties nor misuse them for other non-business projects, in the future they should be allowed – with the customer's consent – to conduct data analyses across divisional lines using the information on record. The knowledge gleaned will be used to maximise value added for the customer. Discussing the issue with customers in advance and documenting their consent will ensure the confidence-building transparency required to comply with data protection legislation on informational self-determination.

For contract signing, in particular, there should also be offers of exclusively online solutions going forward. As regards authentication on the internet, in future biometric recognition procedures, such as fingerprint, hand vein scans, speech, touch and gait identification procedures will become established and supplement – if not replace – current identification procedures that are based exclusively on knowledge and possession. Biometric recognition procedures will increasingly become established in the mass market and heighten the security of current identification procedures on digital distribution channels in particular. Traditional banks should therefore consider stepping up the use of biometric recognition software in their respective business models.

When a financial service is being contracted, it is recommended that comparable customers with similar patterns of consumption, payment, savings/investment and risk aversion etc., are displayed for comparison. The additionally gained valuable behavioural patterns of the customer provide the basis for new, personalised sales approaches going forward. For example, attention may be drawn to a potential reduction of a customer's fixed costs or to alternative savings potential. The following communication with customers could take place in the secure area of their online account:

“Hi, Tom! 47% of your peers have also bought this product (e.g. a mutual fund) and achieved an average return of 13.8% p.a. Furthermore, 36% of our customers that acquired this product also opted to complement it with products X (mutual fund savings plan) and Y (equity-based savings) in their secure online account or watched an analysis of these products in an animated film. An investment advisor is standing by and could assist you on various channels. Also, we would like to inform you that you pay 7.89% more for your liability insurance and 23.4% more for your car insurance than your peers. Let us show you alternative, cheaper offers, also from external providers.” (Daap, 2015)

In the data economy, each new piece of customer information and each behavioural pattern measured now delivers a new way of making contact with the customer and offering appropriate, personalised products and services. These new services along a bank’s value chain should enable customers to make better investment decisions and derive greater benefit from the services of their house bank.

A large share of customers will likely be unwilling to pay a fee for “basic services”. In a recent survey, more than half the respondents objected to an additional transaction fee – for example in online-banking. This probably also applies to further simple external financial services. However, additional services building on the existing basic services could indeed have a price tag, as long as they generate additional value for the customer. The customer should be able to choose between a free basic service and an extended, exclusive premium service. So if up to now the account transaction record has been made available free of charge for a certain period of time, this period could easily be doubled via modern data analysis for a fee. A further valuable service is individual storage space in the bank’s own data vault (cloud service). Consumers would have the option of conveniently storing all their digital messages, account statements, credit card invoices and general financial correspondence (invoices, tax returns etc.) up to a sufficiently large capacity limit without any time constraints within the secure bank IT environment, and they could call them up at any time around the clock. More storage capacity or possibly additional services could be offered here for a fee.

From inside their online account consumers can also branch out to products and services offered by third parties. For example, some fintechs operating in the mobile payments space offer mobile payment solutions that enable the consumer to transfer payments from A to B via email or text message (messenger service). These services are performed conveniently and virtually in real time via the contact list on mobile devices (smartphone, tablet, wearables), while the secure infrastructure of the digital banking platform works in the background. Moreover, it is also possible to offer simple and completely digital investment products from third parties if they have entered strategic alliances with the banking ecosystem.

Regional, locally linked networks increase customer utility

Contingent on customer consent and consideration of the regulatory framework (e.g. banking secrecy) differing networks with local links may also arise or be actively offered within the customer's own bank. For example, diverse networks with local and regional tradespeople or doctors could be formed that offer bank customers their products and services via the banking ecosystem. The payment transaction between tradespeople/doctors and customers would moreover be seamless and easy to fulfil since both parties are customers of the same bank and theoretically only one internal bank posting is involved. A further appealing network could have the character of a crowdfunding platform. Some projects can be implemented despite being rejected by committees of funding establishments or traditional financial institutions because the "crowd" considers the project to be worth supporting and provides funding. Crowdfunding can thus be used as a community funding instrument to promote regional projects, for instance that would fail due to lack of support from traditional funding instruments. Creditors and debtors would be customers of the same banking ecosystem, who organise themselves on a bank-owned platform. The bank merely provides the infrastructure and is not liable for potential risks because the lending of the crowd capital is not handled by the bank, but instead by the customers (peer to peer).

As mentioned, using uniform standards and open programming interfaces, a bank's own mobile payment service could also become the established system by linking in other banks, retailers and miscellaneous market players. Diverse retailers could set up connections with the banking ecosystem to offer bank clients special customer loyalty programmes.

Regular consideration of external feedback is appropriate as a form of internal quality management. Integrating external knowledge owners and customers interactively into complex innovation processes can have a positive impact on company innovation rates. So, to find out which preferences and desires customers express with regard to their online accounts or what changes they would suggest, one possible approach could be to hold idea competitions on a regular basis. To obtain further suggestions it is no doubt also worthwhile for the management to seek regular internal communication with the related call centre for complaint management in order to subject the services offered to a permanent quality audit. The data evaluated by software will certainly also reveal information about new, previously unimaginable financial services.

Challenges for financial education

The rapid – often revolutionary – changes make routine practices "obsolete" and require new skills and knowledge. Much of the new knowledge can be relatively easily picked up, but there are a lot of things that must be learned in order to use new products and services safely. For the Millennials this process is less challenging at least in terms of "manual skills", but more complex issues – such as amending orders and contracts, reconciliation of potential disputes, making complaints, maintaining privacy, avoiding threats from cybercrime etc.

require absolutely new knowledge that cannot be acquired by intuition and imitation. And as for the generation X, mastering these challenges will require even more effort.

An additional challenge is that changes are currently quite fluid with a lot of new – competing – solutions being offered, and it is not easy to choose the most adequate one, and sometimes even a popular solution can easily disappear. Thus, finding the most appropriate ways to provide the most adequate training opportunities for different customers is a daunting task. Most likely web-tools offer the best way to provide the necessary knowledge – this allows anyone with basic computer literacy to find the needed information, anytime when required, and the content can be easily updated as required by technological developments. Built-in triggers can warn users if there is any development they need to know and apply. This is going to be a brave new world creating a lot of new dependences for users, and any sudden interruption may cause big problems for which people must be mentally prepared. And of course, according to the wisdom of the old Hungarian adage "Jó pap holtig tanul" (A good priest learns until he dies – i.e. Live and learn) everyone must be prepared to follow technological developments and keep knowledge up-to-date.

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