

# *Knowledge About Past and Present Financial Crises in Relation to Financial Education*

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**SUMMARY:**

The crises of the past provide us plenty of additional information to understand the crises of the present. The crises in the past and the present have gone through very typical developmental phases in terms of their unfolding, which has already been highlighted in several studies. For this reason, it is important to know their development and operation, thus reducing the probability of future crises. It is also important to be able to distinguish the bubble from the crisis, which only occurs when the bubble bursts. However, when this happens, the effects directly or indirectly reach everyone. The level and the development of financial literacy has been a challenge not only in Hungary but also worldwide for many years. In this process, we try to understand the financial markets and to describe the tools, but how important is to discussing previous crises? In this study, we try to shed light on the knowledge of past and present crises and the related circumstances, paying a close attention on their effects in a connection of the previous financial studies with the results of a questionnaire survey conducted in 2020, basing it on extensive literature research. Our goal is to show the shortcomings of financial education, what is so important in identifying and managing crisis areas that are constantly present in the economy.

**KEYWORDS:** crisis, bubble, financial education, financial literacy

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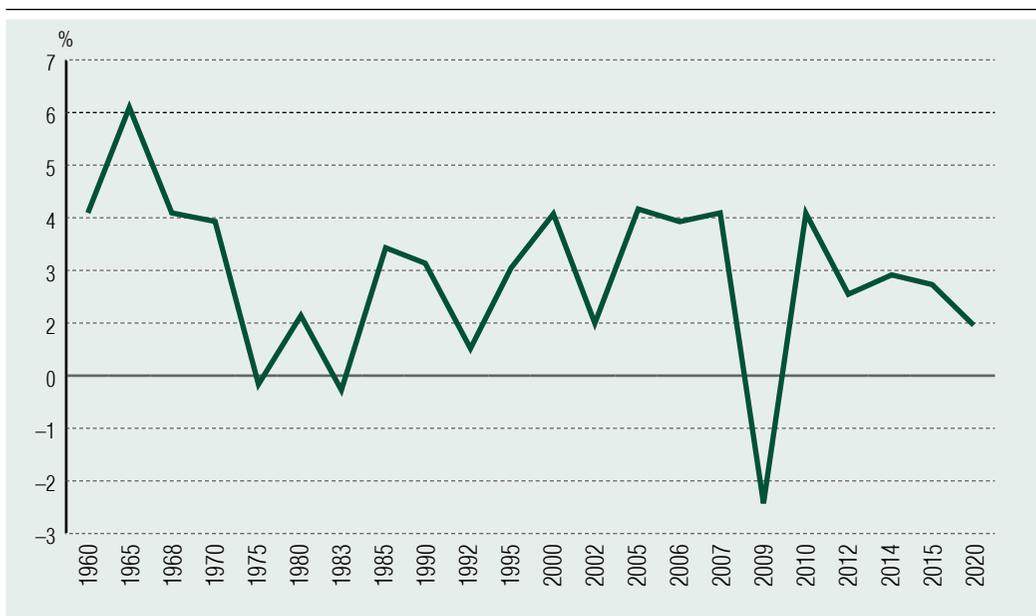
Crises represent an inherent part of our lives, we could even say, it is an inevitable phenomenon of our social and economic system. World history has so far provided many examples to prove that the phases of growth and decline tend to follow each other at a certain pace, so we have never been characterised by unilinear<sup>1</sup> growth. To accept this statement, it is enough to look at the evolution of the GDP of the world, as it provides perfect evidence of growth and decline in succession (see Figure 1).

Therefore, crises could even be considered a natural state of our economy, which may be defined as a phenomenon recurring at regular intervals (see Figure 1). If we can accept this and believe that crises may return to our lives on a regular basis (henceforth, let us call this the natural order), then conscious preparation, preparatory actions and responsible thinking must also be part of our decisions. Davidson

(2002) refers to *Keynes's* statement that the economy is like an engine. It breaks down from time to time, but it can also be repaired. This also includes the fact that an engine as a structure does not have eternal life, and by no means can we be so naive as to believe: 'ours will never break down'. This is a very important lesson that we must keep in mind. Not only the return of crises, but also the complexity of the world economy provides a lesson that is always worth monitoring. In many cases, the outbreak of a major crisis may be linked to a particular country or region, or anomalies in a market may lead to a crisis. Today, we can clearly state that there is only one single world economy, and in this system, no one can stay independent of its processes. The interdependence of economic actors in this system is becoming stronger and stronger, a trend reinforcing the need for us to make

Figure 1

**EVOLUTION OF WORLD GDP FROM 1960  
(A PARALLEL VIEW OF PERIODS OF GROWTH AND DECLINE)**



Source: Based on WorldBank Database data, edited by the authors

certain decisions much more responsibly, much more consciously, as these decisions may determine something other than merely our own situation. The existence of economic complexity in world economy is underpinned by a number of things. According to a research by the World Economic Forum (WEF, 2019), national economies can be ranked on the basis of complexity, in addition to other aspects. Using the results of the so-called Country Complexity Ranking (GCR) of Harvard’s Growth Lab, the WEF has identified the 10 most complex economies in the world, with Hungary being among those at the top of the list (!). In the past, trade between nations was much simpler. Only a few commodities and finished products flowed through a handful of countries. Today, thousands of products pass through the ports of the world, digital products and services are interconnected worldwide, and millions of transactions are made, making it even more difficult to measure countries’ economic activities. The

GCR index puts countries at the top of the list the exported products of which show great diversity. These countries also have sophisticated and unique exported products, i.e. few other countries produce similar products. Relating thereto, Harvard’s Growth Lab produced a spectacular and eloquent chart that also identifies products the export of which explains the significantly high value of complexity (*Table 1, Figure 2*).

Similar findings have been published by The Observatory of Economic Complexity (OEC) institute, which uses the ECI (economic complexity index) for expressing economic complexity. This indicator is obtained through a multidimensional analysis, from which a ranking of countries is established. According to a report prepared by the OEC, Hungary is among those at the top of the list here as well, and the Hungarian economy was in the 14th position based on the results of 2018 (OEC, 2020). Complexity is often measured by using the

Table 1

**TOP10 COUNTRIES BASED ON COMPLEXITY**

Place	Name of country	Exported products
1.	Japan	Car manufacturing, ICT
2.	Switzerland	ICT, gold, packaged medicines
3.	South Korea	ICT, car manufacturing
4.	Germany	Integrated circuits, ICT, car manufacturing
5.	Singapore	ICT, car manufacturing
6.	Czech Republic	Car manufacturing, vehicle parts
7.	Austria	ICT, tourism
8.	Finland	ICT
9.	Sweden	ICT
10.	Hungary	Car manufacturing, ICT

Note: 132 countries were on the list until 2004, and 133 countries have been on the list since 2005

Source: Based on atlas.cid.harvard.edu, edited by the authors

Figure 2

**CHANGES IN HUNGARY’S COMPLEXITY (GCR) INDICATOR OVER THE PAST 18 YEARS**



Source: Based on atlas.cid.harvard.edu, edited by the authors

so-called globalization indices. *Pálinkai et al.* attempted to collect these indicators in a wider context (Pálinkai, Miklós, 2014). In their view, globalization is closely linked to economic complexity, as international trade intensified by globalization, financial movements, free movement of persons, flows of info-communications, etc. have all increased the degree of complexity. If we additionally consider supply chains organised across borders around the world, cross-border economic agreements and business interests, the spreading of multinational and transnational corporations, and the increasing volume of FDI investments, then we can hardly argue about the evolution of complexity around us. In the meantime, we are also becoming increasingly interdependent within Europe, as the establishment of the

European Union has created a new mechanism of dependence and mutual interdependence. Economic complexity has been strengthened by contributing factors such as the Principle of the Four Freedoms, or the Banking Union and the Capital Markets Union (CMU), which have created a new system of financial supervision to prevent crises and to manage them more effectively (consilium.europa.eu; ec.europa.eu). The *Pálinkai, Miklós (2014)* study mentioned above examined Hungary’s positions in globalization indices. They have concluded that our economy is one of the most complex economies in the world. This has been confirmed in recent years by Ernst and Young (EY), mentioning Hungary with its globalization index as one of the most open and complex economies in the world (ey.com, 2020). In the Globalization Report

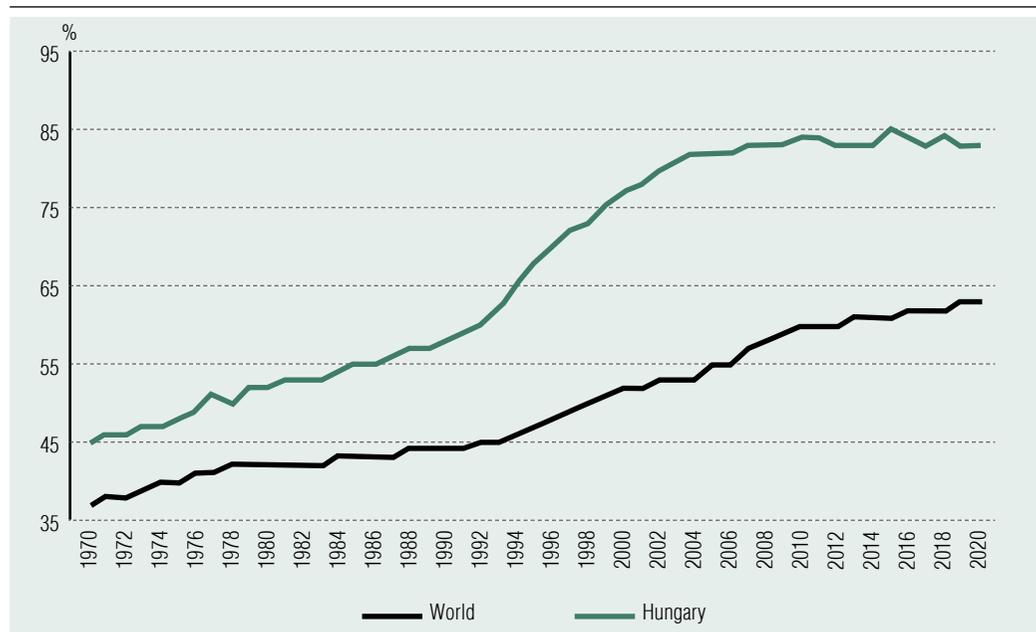
prepared by *Weiss et al.* in 2018, Hungary is ranked 10th out of the 42 countries reviewed (*iberglobal.com*, 2018). In the KOF Globalization Index 2020, Hungary is ranked 16th, based on data of 2018, which is also at the forefront of the list. This index attempts to assess current economic and financial flows, links, and networks. Research carried out by the Swiss KOF Institute provides an instructive picture of the last 50 years of the Hungarian economy. According to their findings, the Hungarian economy has become significantly more complex in recent decades than is typical of the world average. (See *Figure 3*)

Economic complexity is reinforced by the 2020 data series of the World Investment Report. Within the European Union, Hungary ranks 15th in terms of FDI inflows, ahead of countries such as Austria,

Denmark or Slovenia (*unctad.org*, 2020). This suggests that, although Hungary does not receive the largest amount of FDI inflows in the EU, it is still significant compared to the country's GDP, which further reinforces complexity and dependence. The most important statement might be that complexity also facilitates interdependence, so it is no coincidence that the world could be likened to a big drum. If you hit one side, the vibrations can be felt on the other side as well. This is how economic complexity and interdependence have furthered the spreading of crises like wildfire in the world in some cases, as everything is related to everything else. This is especially crucial in countries that are particularly exposed in terms of complexity or openness to the world economy and, seeing the results mentioned above, Hungary can also be included among them.

*Figure 3*

**CHANGES IN COMPLEXITY IN HUNGARY AND IN THE WORLD OVER THE LAST 50 YEARS**



Source: Based on *kof.ethz.ch*, edited by the authors

In his famous growth management model, *Larry Greiner* mentions cyclicity and natural state (which we mentioned at the beginning of this study) concerning organisations as well. In an article written in 2009, he writes that crises are a normal phenomenon also in the life of organisations. However, he adds that the history of companies, i.e. prior stages of their life cycles, must also be taken into account, so as to learn lessons from them. The management of a growing company can anticipate the next crisis and better prepare to handle it (Greiner, 2009). This may be understood as if he called attention to some kind of conscious foresight and looking-ahead, and made company management responsible for that. Based on the above, we can say that crises and economic complexity can amplify each other. (See Figure 4)

Crises are a natural part of economic life. From studying past events, one may conclude that they practically have the same root. Human

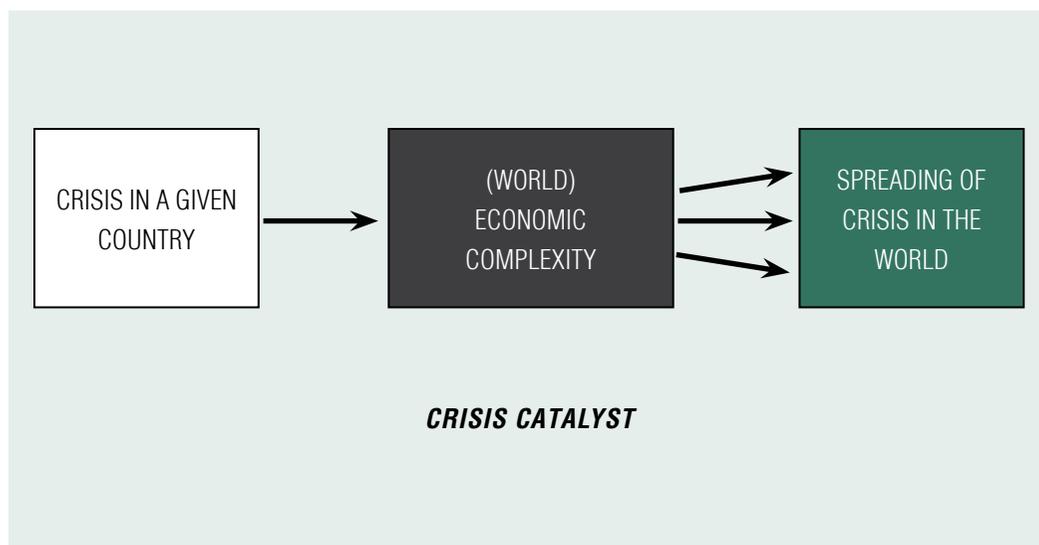
credulity, greed, the possibility of getting rich quick have already pushed thousands of people into poverty. All of this is evidenced by the cases of Tulip mania, Mississippi Company and South Sea Company, where human greed led to the formation of bubbles and their subsequent bursting (Madarász, 2009, 2011a, 2011b). Getting to know the natural history of crises has already motivated many researchers, among them, *Hyman Minsky's* work is outstanding. The financial system, if not regulated, will develop bubbles by destroying itself. This relationship has already been formulated by Minsky, a US economist, years ago. According to Minsky's theory, there are seven distinct stages of every crisis, and he states that crises are very similar in many ways. Stages of crises:

**1** Displacement

Every crisis starts with a disturbance, i.e. some unusual event takes place in the market

Figure 4

**COMPLEXITY AS A CATALYST OF CRISIS**



Source: edited by the authors

(change in economic policy, interest rate cut). Such change could affect any sector of the economy.

### 2 Prices start to increase

As a result of the change, prices in the affected sector start to rise. Economic actors initially barely perceive price increases; however, when the effect proves to be lasting, they notice it.

### 3 Easy credit

High prices alone are not enough for a bubble to form, it requires some kind of 'fuel' that is cheap credit. If financial sector players did not heat the evolved situation with their cheap loans, the sector affected by the change would soon return to normal. Cheap loans attract players from outside the sector, who enter this affected segment of economy in the hope of greater profits.

### 4 Over-trading

As a result of cheap loans, markets start to grow tremendously, which is manifested in an increase in trading volumes and, in many cases, shortages. Prices start to rise, which induces a huge increase in profits on the supply side. Thus, the sector attracts even more external players and prices become uncontrollable. Accelerating price increases attract more and more unthoughtful and greedy players to enter the market. Just as fire needs more wood to burn stronger, so do bubbles need more outsiders.

### 5 Euphoria

The resulting bubble can no longer grow. Experts can already see the impending crisis and warn others of it, but players do not want to hear it. Prices continue to soar and speculation begins. Speculators know that prices cannot rise indefinitely, however, they deny this in order to attract even more external players to enter the market. Speculators remain in the

market as long as the situation seems stable; however, they exit before the bubble bursts, and then 'less savvy' players get caught up.

### 6 Insider profit taking

Some players make huge profits during the formation of the bubble, but other players lose a great deal. 'Insiders' get out in silence (with a pocket full of cash), which marks the beginning of the end.

### 7 Revolution

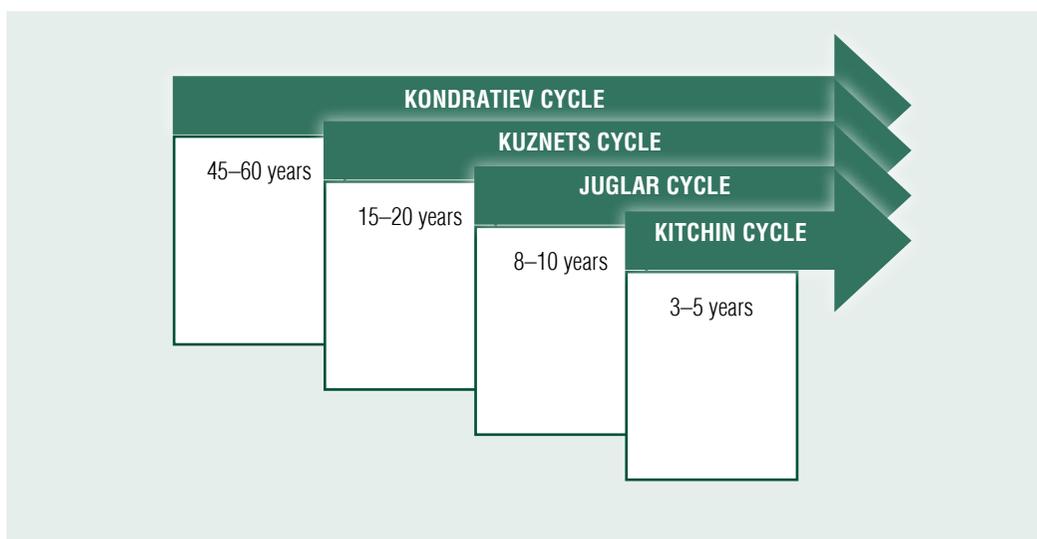
Panic may be triggered by a number of factors: the profit rate of the sector is starting to drop dramatically, or some unexpected bad news gets revealed, and thus euphoria turns into panic at once. The sector is 'on fire' and everyone is fleeing. Panic sets in; prices are decreasing; profit rates are tumbling downwards; cheap credits dry up; losses start to accumulate; everyone would want to run away, but there is no way out.

With this theory, Minsky formulated the paradox of bubble theory (Shostak, 2007): everyone knows that the combination of cheap credits, oversupply, and euphoria will sooner or later be fatal, yet the world will fall into this trap again and again (Lentner, 2015). Therefore, from stock bubbles to the real estate bubbles, we have come across many forms of bubbles. As one can see, the stages listed above can be observed one after the other in almost any crisis (Beshenov, Rozmainsky, 2015).

We can no longer argue about the nature of crises. We no longer have to look for the answer to the question of why a crisis has developed and why we are in it up to our necks. Natural order and complexity have already provided an answer to this question. The following *Figure 5* confirms the cyclical nature of economies even more.

We must prepare and think responsibly. No crisis event should be underestimated, because

**TYPES OF CYCLICALITY**



Source: Based on Kehl, Sipos 2007, edited by the authors

in a complex system of world economy we live in, we may easily be faced with a tremendous problem. In this system, everyone is interested in (or at least should be interested in) maintaining stability, and thus everyone can do the most in their respective field. A crisis in the life of an organisation means that its vision and mission may be jeopardised by an adverse event (Farkas, 2013). For a national economy, a crisis means a permanent decline or stagnation of GDP. The shorter-term process of this is recession. For a family or household, this can result in a loss of income, the onset of unemployment, a decline in living standards, or a deterioration in indicators for quality of life. The recognition of the natural order of crises and complexity must be part of our culture. This means that when making decisions, whether it is a financial decision of a government or even a household, we must take into account the effects to be expected in the future. The above-listed aspects provide evidence that crises are recurring phenomena

indeed, and countries or companies may be faced with crises just as households may.

Everything is related to everything else, and the impact of a major crisis is not limited to organisations but is often felt by a wider group of society. This again provides evidence of complexity. The effects of crises are not only measurable in GDP; a much more interesting aspect to examine is social depression,<sup>2</sup> which summarises the impact of crises on society. Future prospects are becoming less favourable, confidence is weakening, social capital is deteriorating, people are afraid, willingness to invest is declining, and everyone is speculating on waiting. Failure to facilitate expansion could lead to a stagnation in economy for many years and a lasting crisis. First, we need to change our thinking about crises and prepare more consciously for the future. Complexity is now a fact and a given circumstance. It is a factor that can amplify the adverse effects of an event to impact the whole world. Consequently, crises might break out

anywhere and anytime, but we should not sit with folded arms and only start making decisions when we are already in a crisis. One can make (good) decisions even when the signs of a crisis still seem to be distant. Economic actors need to make a lot of progress on how to learn to live together with crises and how to reap the benefits of economic complexity. In many cases, crises can be linked to finances, so more responsible financial decisions would be needed from both organisations and households. It has already been mentioned that in this very complex and now turbulent business environment, everyone should strive to maintain stability.

Stability, however, means creating predictability, which may also be promoted through conscious and responsible finances. Households or businesses could do a lot at an individual level to promote stability. This would require a substantial development of the financial culture of society. The concept of financial culture is also the subject of much debate in Anglo-Saxon and Hungarian academic literature. In many cases, there is a mixed use of these terms: financial awareness, financial literacy, financial proficiency, financial culture. However, they do not mean exactly the same thing. This is clearly evidenced by the study of *Csorba* (2020), which takes culture as a starting point and goes on to literacy to finally get to financial culture. In his article, he explains that financial knowledge, literacy, and experience together contribute to the state of financial culture. In one of his important figures, he also shows that the cultural values that characterise a society are fundamentally related to the nature of their financial decisions, so cultural factors themselves need to be assessed when trying to examine the state of financial culture (Sági et al., 2020a; 2020b). Financial culture has been the subject of several research and technical projects in recent years. In particular, the crisis of 2008 has drawn the

attention to this area, and now the coronavirus crisis of 2020 has again put the state of financial culture in the spotlight. Although this is a current topic today, the concept of financial culture can even be discovered going back to the 1900s (Kovács et al., 2012). *Béres* has conducted several research projects on this topic. In his article from 2012, he and his co-author write that financial culture can be regarded as a specific concept. This means that several terms are mixed in this concept, namely financial knowledge; proficiency and experience in finances; financial skills and awareness (Béres, Huzdik, 2012). Awareness is also highlighted by *Nagy and Tóth* (2012), while *Süge* (2010) argues that financial culture includes everything that helps people find their way in financial issues. A more widely used concept of financial culture has been defined by the central bank of Hungary (MNB). In the central bank's interpretation, financial culture means skills that enable individuals to identify, obtain, and interpret financial information needed to make their decisions, and decide based on them. They are also able to analyse possible future consequences of their decisions (MNB, 2008).

This is also one of the definitions that includes consciousness, system approach, foresight, as well as responsible and sustainable thinking. In our interpretation, responsible finances are reflected in a situation if our current financial decisions do not jeopardise our future consumption. Responsible financial thinking takes into account the possibility that adverse events may occur in the future which could exert a fundamentally negative impact on our cash flows. The natural order of crises appears here, as many economic actors had not had enough reserves to survive a period of crisis. In Anglo-Saxon literature, financial literacy appears more often than the term financial culture. *Atkinson and Messy* (2012) emphasise the role of financial skills, just as the study

of *Xu and Zia* from 2012. Financial abilities are not innate capabilities of an individual, so they need to be constantly improved. A study of *Lusardi and Mitchell* from 2014 is related to sustainable finances. In their view, in periods when they generate higher than usual income, rationally thinking individuals spend less, so as to be able to maintain their level of consumption in the future (Lusardi, Mitchell, 2014). *Botos* (2012) and *Németh et al.* (2020) call for the development of financial abilities and skills and, according to them, socialisation, family, and the education system may be held responsible for developing financial culture. In their view, bad decisions are linked to a weak financial culture. *Kovács* (2012) comes to a similar conclusion. In his opinion, economic crises point out the importance of financial culture, and one can see areas where society in Hungary particularly need to develop. According to *Huston* (2010), decisions of citizens are a good reflection of the state of financial culture. Many people get indebted, household bankruptcy rates are high, businesses do not have enough significant reserves when losing income in a period of crisis. *Mandell and Klein* (2009) highlight that the lack of a financial culture is an obstacle to individuals' goals. As individuals are unable to interpret financial information correctly, their decisions may work against their short and long-term goals. In his book published in 2000, *Kurt Tepperwein* argues that most people approach money emotionally, but the first step in proper financial awareness would be to know how to make our existence more responsible. However, the author also points out that what matters is not the amount of money one can have at one point in time, but that one can manage it much better than before (Tepperwein, 2000). Financial culture is a set of abilities and skills enabling us to provide a more effective response to changes that directly affect our finances. Financial

culture is a factor that shapes the value system, but the value system can also influence the nature of financial decisions. A high level of financial culture shows that economic actors have financial abilities (financial literacy), which are accompanied by a greater sense of responsibility, foresight, the pursuit of security, future-orientation and preparedness. All this does not mean that citizens in countries with a high financial culture would avoid taking risks or decide not to invest. On the contrary, they do it, but much more reasonably and rationally, taking into account all factors that may adversely affect the future of economic actors. Financial culture in this perception does not only mean all financial abilities together, but also economic actors' specific behaviour and attitude that strives for predictability, capability of planning, and clarity in their daily finances.

Recently, the following information has appeared in online media in Hungary (non-exhaustive list):

- *Piac és Profit* (2019). Most Hungarians know only as much about savings as much they have happened to hear about them.
- *Növekedés.hu* (2020). Young Hungarian citizens have savings of HUF 400,000 on average, but 45 percent of them do not have any money set aside.
- *24.hu* (2020). A fair pension reserve is unattainable for most Hungarians.
- *Bankmonitor.hu* (2020). The savings rate of the Hungarian population is between 7 and 13 percent.
- *Aegon* (2020). 43 percent of Hungarians have no savings.

Upon reviewing and summarising the above, the following aspects may be highlighted.

- ① A crisis is a natural state of the economy and a phenomenon recurring from time to time.
- ② We need to think of crises as an integral part of our lives, so we should not feel panic

or fear in connection with them, but should consider them a task to be solved.

③ Crises return cyclically, appearing in our lives from time to time, so crisis management can be started even when we do not yet see any signs of crisis (prevention and preparedness). Let us accept this and start preparing for the next crisis already today.

④ Economic complexity is so significant that even a small crisis event can cause a global economic recession. Everything is related to everything else, and complexity additionally increases the possibility of a crisis. In this respect, we can never rest, and it is worth preparing for the question of 'what happens when things get worse?'

⑤ We must not be naive as to believe that crises or complexity do not affect us.

⑥ In most cases, crises affect our finances, so our financial culture should definitely be developed.

⑦ We should make our present financial decisions without compromising our future levels of consumption.

⑧ A responsible economic actor also thinks of a period when his revenues fall short of his expenditures (making reserves may be needed also from a prudential or safety point of view).

⑨ In times of crisis, we can make improvements from reserves, train our employees, or even implement innovations. At an organisation, it is worth creating a development or response fund (this may be called a flexibility reserve), which can finance part or all of crisis management activities during periods of crisis management.

⑩ In times of crisis, it may be more difficult to get credit; therefore, it is also worthwhile to improve our financial literacy so as to find a solution for financing.

⑪ It is important to respond in a timely and appropriate manner. Let us not allow our incomplete financial knowledge to hinder good decisions, let us educate and

develop ourselves and strengthen our financial culture.

⑫ Let us look at our environment, learn from past crises, and build our future more consciously and responsibly, and not only from a financial aspect.

## MATERIAL AND METHOD

In addition to a systematic review of relevant domestic and international academic literature, we present partial results of our primary research in this study. As part of a primary data collection process, we conducted a quantitative research in the form of online questioning by using pre-tested and standardised questionnaires. Respondents were recruited using a snowball sampling procedure, as a result of which we received 6873 questionnaires that could be assessed. The auxiliary research tool included only closed-ended questions at a nominal measurement level (in the form of single and multiple-choice questions), and metric scales (Likert scale and semantic differential scale) to analyse consumer attitudes and values. Topics of the auxiliary research tool were developed as a result of the relevant secondary data analysis. In light of qualitative results, alternative responses were finalised, and a pre-testing of the research tool was carried out. As part of this qualitative research phase, we conducted 10 mini focus group interviews, for which interviewees were also selected using the snowball method.

Each mini-focus event was carried out in the form of directed conversation with the participation of 3-4 individuals of a heterogeneous composition in terms of gender and age. The main goals of the qualitative research were to lay the foundation for the quantitative research, to finalise a standardised questionnaire, and to outline our research hypotheses.

Topics of the quantitative auxiliary research tool (finalised as a result of the qualitative phase) included the following: view on crises; analysis of impacts of crises in the light of views on digital skills, economic knowledge and management competencies; the issues of choosing a bank and service provider loyalty; and conditions to staying with a bank. In the present study, we focus on the partial results of the quantitative phase of our research project. Within partial results, we highlight results connected to the analysis of impacts of crises and the testing of the relationship between respondents' views on crises and their prior financial educational level.

Quantitative results were processed by applying descriptive statistics and bivariate and multivariate analyses and using SPSS 22.0 software. In the present study, in addition to descriptive statistical results, we present the results of a correlation test between nominal measurement levels, where the values of Pearson's Chi-square significance were used as a basis for establishing statistical correlations, and the absolute values of adjusted standardised residuals were taken into account for establishing and analysing internal correlations.

During the quantitative research phase, our main goal was to analyse the following hypotheses.

H1: There is a statistically verifiable correlation between prior financial-economic educational level and knowledge about the crises involved in the survey.

H1/b: Respondents with financial and economic studies are better acquainted with the crises involved in the survey.

H2: There is a statistically verifiable correlation between prior financial-economic educational level and views on impacts of the crises involved in the survey.

Partial results in the study are described below by following the logical structure

provided by the assessment of the hypotheses mentioned above. The main socio-demographic characteristics of the sample are as follows: of the 6873 individuals surveyed, 50.6 percent are men and 49.4 percent are women. The proportion of respondents having primary education, high school diploma, bachelor's degree, or master's degree is 7.2 percent, 57.2 percent, 26.3 percent, and 9.3 percent, respectively. In terms of age, the largest proportion of the sample (39.4 percent) was made up of members of Generation Z (18–25 years). They were followed by respondents aged 26–35 with 21.8 percent, and respondents aged 36–45 with 17 percent. Members of the sample aged 46–55 represented 13.1 percent, while respondents over the age of 55 accounted for 8.5 percent of the sample only. Given that, according to the hypothesis of our research, there is a statistically verifiable relationship between prior financial-economic educational level and views on crises, we consider it important to describe our sample according to this criterion as well. More than half of our respondents (57.1 percent) do not have any prior financial-economic education, such knowledge characterises 57.1 percent of respondents.

## RESULTS

As we have already pointed out in the academic literature review above, knowledge about crises is a very important part of knowledge of economic history. As crises have always been, and will always be, it is worth knowing about them in detail. Each crisis draws on from another; we could even say that there is nothing new under the sun in respect of their starting bases. In the part of the research project that is described in this study, we attempted to explore the views of respondents (involved in the sample) on previous economic crises and

their impacts with regard to their previously received (or not received) financial education. To this end, we provided them with a non-exhaustive list of relevant prior crises (regarded as milestones), and then asked them about the extent of their impacts, with 4 denoting the strongest impact. The aim of the survey was to explore the opinion of respondents about the impacts of previous crises, and to what extent they are optimistic or pessimistic, shedding light on their expectations of future crises and the current coronavirus crisis. As part of the survey, descriptive statistical methods were used and correlation tests were performed, the results of which are described below.

First, we screened the proportion of respondents that were aware of the crises involved in the survey, which are among the most significant crises in world history. Awareness, i.e. the cognitive part of the attitude, is an important element because it has an influence on the affective part of attitude towards a given crisis and further ones. If we know an economic phenomenon – its cause and its effects –, then, as a result of the psychological process of learning, it has an influence on our assessment of later crises. Similarly, the lack of knowledge is also an influencing element, but it causes the phenomenon of cognitive dissonance: in the absence of knowledge, we generate emotional and action-related activities, i.e. we do not know crises and their causes and possible effects. An inadequate cognitive level results in a positive, or even negative, affective level, i.e. it can generate fear from, or even overconfidence related to, an economic phenomenon. Neither option is fortunate if it lacks grounds in terms of awareness or a right level of knowledge. The extent of knowledge of each crisis is therefore an important piece of data, because one crisis feeds off the other and their roots are in many cases common, as discussed earlier in our study (see Figure 6). In our opinion, if we know the

factors – even by learning from mistakes of others – that can cause euphoria and a bubble, we will suffer less damage in the next crisis, as opposed to those who are active players and sufferers in the bubble.

Based on the results, we came to the following main conclusion regarding knowledge about crises. In connection with older events, which received less media coverage in Hungary, the proportion of those who did not know about a given crisis was higher. In connection with events closer to the present, which received more publicity and which, in some cases, are already part of certain curricula, there was a much smaller proportion of those who stated to be unaware of a particular crisis.

According to our hypothesis (H1), knowledge about individual crises is influenced by the extent to which a respondent is informed about financial and economic issues. We assumed that there is a correlation between respondents' education in this regard and their knowledge about crises.

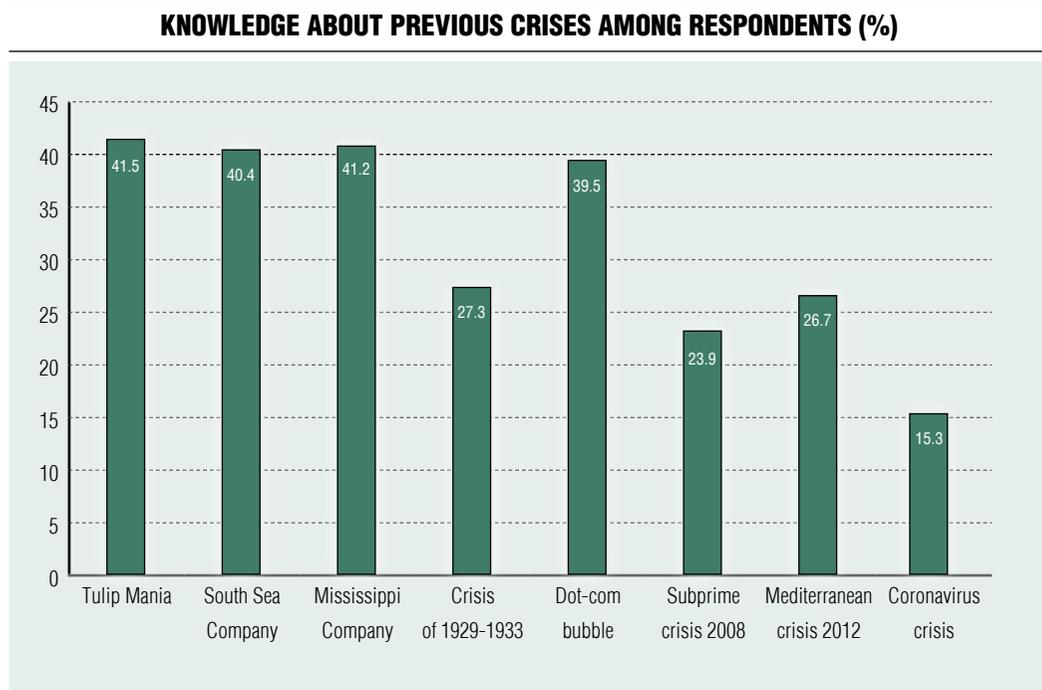
For the purpose of hypothesis testing, the sample was grouped into those respondents who were unaware of the crises involved in the survey (Group A) and those who were aware of them (Group B).

The statistical correlation was evaluated based on the Pearson's Chi-square significance value.

In the case of the crisis of 1929–1933 (sig=0.000), the subprime crisis of 2008 (sig=0.003) and the coronavirus crisis (sig = 0.000), we were able to statistically prove that there is a correlation between knowledge about a crisis and the existence of financial-economic knowledge. In the case of the rest of the examined crises, the significance value was higher than 0.005, so no statistical correlation could be verified in connection with them (H1 was partially confirmed).

To examine H1/b, an internal correlation analysis was performed using the values of

Figure 6



Source: authors' own research, 2020; N = 6873

adjusted standardised residuals. As part of this analysis, in connection with those crises where knowledge about them showed a significant correlation with the existence of financial-economic knowledge, we examined the distribution of respondents as compared to expected values. (See Table 2, 3, 4)

Based on the results, we were able to conclude in all three cases (crises of 1929–1933, subprime crisis of 2008, and coronavirus crisis) that, among those who were familiar with the given crises (Group A), there was a higher-than-expected proportion (Adj.R.values = 4.7; 3.0; 3.9) of those with financial-economic studies, and there was a lower-than-expected proportion (Adj.R.values = -4.7; -3.0; -3.9) of those with no financial-economic studies.

Therefore, our hypothesis H1/b was confirmed, and we can clearly state that relevant education plays a significant role

in shaping the cognitive level of attitudes (awareness, knowledge) towards crises.

Next, as part of the first stage of the examination of hypothesis H2, we carried out an analysis among sample members who were familiar with individual crises to find out about their views on the impacts of those crises. The test was performed at nominal measurement level, and test results were interpreted according to percentage values given for each rating. The impacts attributed to a given crisis are shown in Figure 7.

Based on values, you can conclude that the impact of the coronavirus was considered to be very strong by the highest number of respondents (38.1 percent). In our opinion, the result is not surprising as respondents dominantly feel affected and involved in the case of this crisis; and the result is also explained by the event's closeness in time and the fresh nature of fears. This crisis was followed by the

Table 2

**THE RESULT OF THE CORRELATION TEST BETWEEN KNOWLEDGE ABOUT THE CRISIS OF 1929–1933 AND THE EXISTENCE OF FINANCIAL-ECONOMIC STUDIES**

Knowledge about the crisis of 1929–1933		Economic-financial studies		Total
		yes	no	
Does not know about the crisis of 1929–1933 (Group A)	Respondents	716	1164	1880
	Adjusted standardised residual (Adj.R)	-4.7	4.7	
Knows about the crisis of 1929–1933 (Group B)	Respondents	2218	2775	4993
	Adjusted standardised residual (Adj.R)	4.7	-4.7	
Total	Respondents	2934	3939	6873

Source: authors' own research, 2020; N = 6873

Table 3

**THE RESULT OF THE CORRELATION TEST BETWEEN KNOWLEDGE ABOUT THE SUBPRIME CRISIS OF 2008 AND THE EXISTENCE OF FINANCIAL-ECONOMIC STUDIES**

Knowledge about the subprime crisis of 2008		Economic-financial studies		Total
		yes	no	
Does not know about the subprime crisis of 2008 (Group A)	Respondents	649	993	1642
	Adjusted standardised residual (Adj.R)	-3.0	3.0	
Knows about the subprime crisis of 2008 (Group B)	Respondents	2285	2946	5231
	Adjusted standardised residual (Adj.R)	3.0	-3.0	
Total	Respondents	2934	3939	6873

Source: authors' own research, 2020; N = 6873

crisis of 1929–1933 and the subprime crisis of 2008, with both of them mentioned at the same level (30.9 percent). The crises generated by the Tulip Mania (12.8 per cent), the Mississippi Company (10.8 percent) and the South Sea Company (11.9 percent) were rated as very strong only by very few respondents,

a result probably influenced by a low level of involvement just as much as timeliness and the number and extent of information and communication related to them.

It is established that, of all crises, the ones that have been (or are being) actively dealt with by the media and the public have a much

Table 4

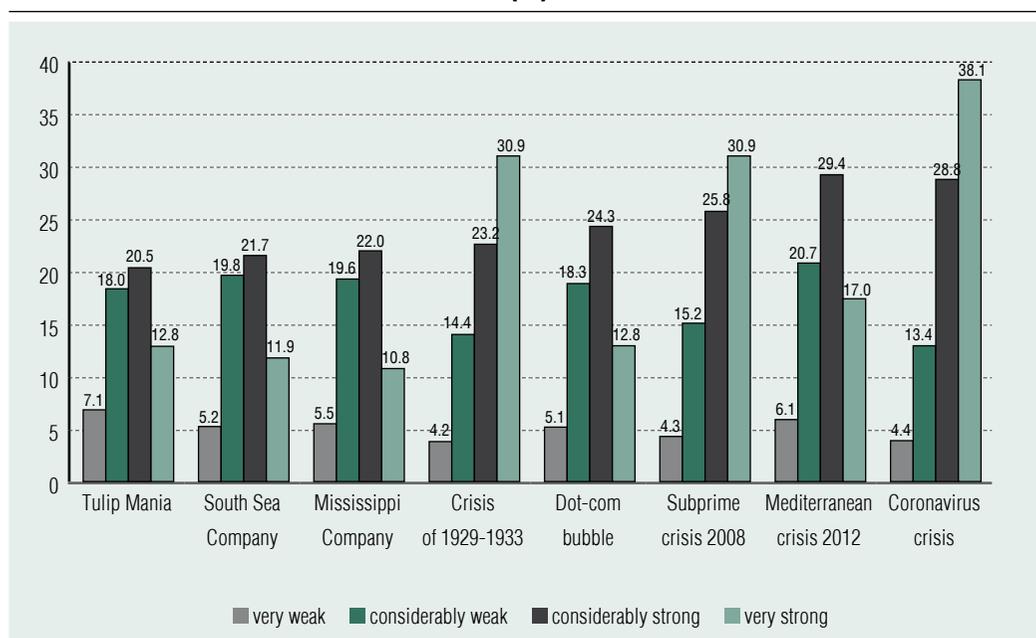
**THE RESULT OF THE CORRELATION TEST BETWEEN KNOWLEDGE ABOUT THE CORONAVIRUS CRISIS AND THE EXISTENCE OF FINANCIAL-ECONOMIC STUDIES**

Knowledge about coronavirus crisis		Economic-financial studies		Total
		yes	no	
Does not know about the coronavirus crisis (Group A)	Respondents	390	659	1049
	Adjusted standardised residual (Adj.R)	-3.9	3.9	
Knows about the coronavirus crisis	Respondents	2544	3280	5824
	Adjusted standardised residual (Adj.R)	3.9	-3.9	
Total	Respondents	2934	3939	6873

Source: authors' own research, 2020; N = 6873

Figure 7

**VIEWS ON IMPACTS OF TESTED CRISES AMONG RESPONDENTS (%)**



Source: authors' own research, 2020; N = 6873

greater perceived impact. This also confirms the importance and influencing power of information flow and communication (the cognitive phase of attitude). In case of crises that had occurred in the past or had not attracted keen interest, their impact was perceived as not so significant, even if their global economic and financial impact had been much greater than respondents thought. The results also prove that, as far as the perceived impact of the examined crises is concerned, not only the influencing power of the dominance of information flow and communication is relevant but also ethnocentric behaviour: respondents feel the effect less relevant when a crisis is further away from their places of residence or country or it affects their everyday lives to a lesser extent.

As part of the analysis of a statistically verifiable correlation between the degree of the impact of the crises involved in the survey and the existence of financial and economic knowledge, based on Pearson's Chi-square values of Hypothesis H1, the relevant

correlation was proven for three crises. In order to analyse internal correlations, values of the adjusted standardised residuals which can be used methodologically at this measurement level were involved in the test. Based on residual values it was established that, among respondents who rated the effects of the crisis of 1929–1933 and the subprime crisis of 2008 and coronavirus crisis as very strong, a higher proportion of respondents with financial-economic studies were present than expected (adjusted standardised residual = Adj.R= 7.7; 4.7; 2.4). Among respondents who did not have such knowledge, the proportion of those who rated the impact of respective crises as strong was lower than expected (adjusted standardised residual = Adj.R= -7.7; -4.7; -2.4). In contrast, their proportion was higher than expected among respondents who rated the impact of the crisis of 2008, the subprime crisis and the coronavirus crisis as very weak (adjusted standardised residual = Adj.R= 3.9; 3.8). Our hypothesis H2 was confirmed by this. (See Table 5)

Table 5

**RESULT OF THE CORRELATION TEST BETWEEN THE EXTENT OF THE IMPACT OF CRISES INVOLVED IN THE SURVEY AND THE EXISTENCE OF FINANCIAL-ECONOMIC STUDIES**

Crises showing a significant correlation with the existence of economic-financial knowledge	Economic, financial knowledge	Extent of impact of crisis involved in the test			
		Very weak	Considerably weak	Considerably strong	Very strong
Crisis of 1929–1933	Studied	Adj.R= 0.3	Adj.R=-5.0	Adj.R= 0.6	Adj.R= 7.7
	Not studied	Adj.R=-0.3	Adj.R= 5.0	Adj.R=-0.6	Adj.R=-7.7
Subprime crisis of 2008	Studied	Adj.R= 3.9	Adj.R=-1.8	Adj.R=-2.4	Adj.R= 4.7
	Not studied	Adj.R=-3.9	Adj.R= 1.8	Adj.R= 2.4	Adj.R=-4.7
Coronavirus crisis	Studied	Adj.R= 3.8	Adj.R= 0.4	Adj.R= 0.3	Adj.R= 2.4
	Not studied	Adj.R=-3.8	Adj.R=-0.4	Adj.R=-0.3	Adj.R=-2.4

Source: authors' own research, 2020; N = 6873

Based on the results obtained, it is established that the existence of financial and economic studies influences knowledge about, and the assessment of the impact of, each crisis, including the – currently most relevant – coronavirus crisis. The results prove that a stable existence of the cognitive level of attitude is significant in achieving that the assessment of crises is relevant and thus a cognitive dissonance resulting in misperception is not present. These results also call attention to the importance of financial education and of the transfer of appropriate financial and economic knowledge.

## SUMMARY

The research results presented above highlight the fact that economic history is also a crucial part of financial culture. Knowing about economic past in the form of crises is of key importance, as knowledge about the nature of previous

crises and bubbles protects us from many bad economic, and thus, financial decisions. If we know the nature of crises and bubbles and the circumstances of their evolution, it can help us make better financial decisions. The results of the research support the statement that prior financial education helps us understand past crises better and more accurately, enabling us to have a more realistic view of the facts. It has also become clear that financial education alone is not a solution; more emphasis should be put on dealing with crises, studying them in depth and drawing conclusions from them. Education has a particularly important role in this task, especially in higher education, where it is possible to deal with past and recent crises, even in the framework of a separate course. Based on our own experience, we can say that there is a need for this, so one should consider supplementing the range of subjects with this slice of the development of financial literacy, in the light of building a diverse financial culture. ■

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## NOTES

<sup>1</sup> one-directional, stable in the long run

<sup>2</sup> ‘*It’s a recession when your neighbour loses his job; it’s a depression when you lose yours.*’ (Harry S. Truman)

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