Financial Literacy of Gen Z in the Digital Age[1]

The Global Financial and Economic Crisis of 2008 highlighted the lack of financial knowledge of the population and the consequent risk associated with finances. Financially conscious households are more likely to avoid adverse financial decisions thereby contributing to the healthy functioning of the entire financial system. Therefore, the development of the financial culture is the interest of all actors of the economy. Our research provides a more comprehensive picture of the financial literacy of Hungarian students, with a focus on the digital financial knowledge of young people. This age group grew up in the 21st century, in which this generation is and was surrounded by countless digital and smart devices. The biggest advantage of this is, unlike previous generations, that they can obtain and process information very quickly. However, the downside is that they may not be able to comprehend this extremely large amount of information effectively. Our research was based on questionnaires filled out by more than 10,000 students from around the country. During the survey, we intended to investigate what kind of knowledge these students have about today's defining concepts, such as online banking, mobile wallet, contactless payment or Bitcoin. We found that the additional available information does not necessarily cause that young people have more knowledge of the world around them, and the financial knowledge of Hungarian students, especially those from the secondary schools is at an extremely low level.

Keywords: *financial literacy, generation Z, digital finances*

Introduction

Generation Z young adults have just and are about to enter the labor market and in the upcoming few years will become one of the most profitable group for financial service providers. Today, at the time of the fourth industrial revolution young adults and adolescents, who only begin to manage their personal finances, can choose from a wide range of digital financial services, but are they prepared for the responsibility that comes with the financial decisions they have to make soon?

Most of the financial literacy surveys focus on the lack of financial literacy -financial illiteracy- of the adult population and households, and the younger generation, current adolescents and young adults only came into the spotlight of researchers in recent years. Members of the youngest generation of adults, named Generation Z, were born between 1995 and 2010 and raised in an era in which they have been exposed to telecommunication devices, computers and even the World Wide Web throughout their entire life. The current presence of

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information technology transformed how Gen Z youngsters see the world, and this transformation affected the financial literacy of them as well. Earlier generations only needed to be able to navigate between the vast supply of financial services offered by banks, insurance companies etc. but members of this generation not only have to be able to choose a financial service that fits their needs but also have to take into account the dangers and threats behind going online. This generation is the highest adapter of information technology and are the most susceptible towards using fintech tools and digital financial services. At the same time, due to their young age they are the most vulnerable towards financial and cybercrime, one of the biggest threats in the digital world.

In this paper we provide a description of the members of Generation Z, with special focus on their behaviour in the virtual space and their main characteristics as consumers and then, based on the Econventio survey, we assess financial literacy and attitudes towards digital finances of today's Generation Z in Hungary. The aim of our research is to investigate the knowledge of students about today's defining concepts, such as online banking, mobile wallet, contactless payment or Bitcoin and to map their attitudes towards financial stability and information security.

Literature Review

Social sciences showed that the properties of people born into generations are changing every 15-20 years. The first generation of the previous century - and the oldest currently living generation, even though they are in their late 90s- is the G.I. Generation (born between 1901 and 1924), whom have been followed by the Silent Generation (born between 1925-1945), the Baby Boomers (1946-1964), then Generation X (1965-1980, though according to some papers this generation started already at 1960), Y (the Millennials, 1981-1994) and then came Gen Z, the generation born between 1995 and 2010 (Loveland, 2017, Seemiller-Grace, 2018, Francis-Hoefel, 2018), whose oldest members are already on the labor market, having to deal with everyday financial issues and decisions, and whom have been followed by Generation Alpha, whose behaviour is not yet subject to financial literacy studies, due to them currently not being older than 10 years.

Even though there is no general consensus and strict description about when the birth dates of different generations, in our study we decided to use the most commonly appearing definition for the subject of our study, Gen Z, as being all of the people born between 1996 and 2010. Currently, the members of Gen Z are between the ages of 10-24 years, meaning that the majority of them are already in such an age that they have to handle personal financial issues, managing their income from work, scholarships from school or even their pocket money received from their parents. This implies that it is already important for this age group to have a certain degree of financial literacy, they have to be conscious about their finances and as well most of them still requires some degree of guidance in handling financial issues while at the same time try to get independent from their parents, trying out new financial services and make the first big decisions e.g. concerning the funding of their future studies. Due to the lack of experience and their young age teenagers and young adults are generally considered to be very vulnerable and to show high levels of financial illiteracy (Lusardi et al. 2010), which on a long term can have negative effect on their financial well-being. Thus, it is important to discover the factors behind financial behaviors and attitudes of the youth and to identify the main areas in which they require education or guidance, and to act on time, before they make decisions that have a long-term impact on their finances.

Generation Y is usually called the generation of digital natives, as they have been born to an era in which computers and information technology already appeared. However, members of Generation Z are the "true" digital natives (Francis-Hoefel, 2018), as even though the internet and the use of computers started to spread during the era of Gen Y (back in the mid-80s), this is the generation whose members have been born to such an era in which computers, the presence of the internet and telecommunication services became indispensable elements of their everyday lives. Members of this generation already had IT-related education at school, which was not usual for the older generations and they could benefit the most from the accelerating pace of technological development, which resulted in much radical changes not only in the ideology of this generation, but in their everyday and consumer behaviour and their attitude to work as well. Gen Y was characterized by individualism, trying to reach their goals on their own, but members of Gen Z cannot imagine their life on their own, they depend highly on their social network, both in real life and online, and could not live their life either without the support of digital tools and services, which Gen Y-ers were not yet accustomed to (Loveland, 2017, Mohr-Mohr, 2017, Francis-Hoefel, 2018). The increased online presence and their susceptibility towards electronic services is a common feature of the members of Gen Z, which has implications in digital security and in the transformation of consumer behaviour as well.

In our study, we focus on the knowledge and attitudes of Gen Z students of digital finances and try to map their level of understanding of cybersecurity, protection of personal data, and as well their openness towards the use of fintech tools. Our study has limitations as the majority of the surveyed students were under the age of 18 and due to their minor age, most of the services were not legally available for them. However, studies show that Gen Z-ers engage in family-level consumption and financial decision making at a much higher degree than children in previous generation did (Bassiouni-Hackley, 2014), hence we can assume it correctly that even though they cannot use personally certain services, they might have some knowledge coming from their family experiences. In the upcoming chapters we introduce how digitalization affects members of Gen Z and how their exposure to the digital innovation has changed their financial literacy and as well financial markets serving the next generation of consumers.

Digitalization and Cyber-security

Gen Z children have been highly exposed to the digital world from a very young age. Already back in their childhood they could play with video games and those born at the end of this generation could already possess a smartphone or could use the smartphones of their parents to play on them already at the ages of 2-3 years. Earlier studies on this generation generally concerned the effect of videogames on their personal development and socialization in the digital consumer culture.

There is no general conclusion on whether videogames have an overall negative or positive effect on children of Gen Z, however studies could discover supporting arguments for both sides. As Bassiouni and Hackley (2014) summarized in their study, the possible negative effects of videogames in the development of children could be the violence and the pressure to act as adults and to make such decisions in games that their level of understanding of the world could not yet make. Children playing these games are forced to act as adults, which can jeopardize the development of their self-identity and in many cases games include such microtransactions that can exploit children before they could even develop the required social and economic skills to be able to make any financial decisions. On the other hand, members of Gen Z are highly sociable even from the earliest age, meaning that the online sphere can serve as a topic in their face-to-face discussions as well. They can discuss strategies, interests in games and this way even at a young age they can develop their complex thinking and social skills. Even though many claims that members of this generation are less sociable, what we need to understand that they are not less sociable, but their socialization happens at a different platform that it did for the older generations. They are likely to be socializing even more, however conversations and interaction have migrated to the virtual space, making their socialization to be radically different than those from earlier generations. The effect of digitalization hence can be both positive or negative when it comes to the development of Gen Z youngsters and this effect does not only depend on the digital tools, they have access to, but their cultural and family background as well.

Such digitalized era gives Gen Z children significantly different experiences growing up which has implications in their behaviour online. Being and acting in an online world is not unnatural for them, how it is unnatural for their parents, meaning that they are more comfortable, and in some cases, lazy when it comes to digital security issues. In their recent study, Debb et al. (2020) describe what is called a digital divide between the awareness, perception and behaviour in the cyberspace of different generations. They emphasize how actions in the virtual space has real life consequences and even though both Gen Y (the digital natives) and Gen Z are high adopters of digital technology, we can find subtle differences when it comes to their knowledge and adaptation of cybersecurity. Previous studies all demonstrated an age-based digital divide, meaning that as how time passes and people get more experienced with the digital sphere, they become more aware of digital threats and learn how to protect themselves in the virtual space as well, and claimed the youth being less conscious in protection against cybercrime and more negligent towards taking precautionary measures for protecting their personal data. Their study provided another evidence to support these findings, Gen Z-ers reporting poor knowledge and awareness on information security and less endorsement for online data protection practices (Debb et al. 2020), making them much more vulnerable towards cybercrime than members of the older generations, as those generations even though are adopting technology at a lower degree than members of Gen Z, but are more cautious and careful in the online world, partially due to that they feel less comfortable online than Gen Z youngsters. This latter is also supported by the findings of Wood (2013), who found that members of older generations are more aware and uncomfortable of being monitored by companies while younger generations, especially Gen Z showed less concern about privacy issues, which negligence can lead to serious issues both in real life and in a digital world.

Gen Z as Consumers and the Transformation of Financial Services

Even though members of Generation Y and Generation Z only have subtle differences in their overall behaviors, there are a few key elements that can help us differentiate the two generations from each other and as well can help us understanding how Gen Z-ers behave as consumers in general and which implications do these differences have with regards to the use of financial tools and services. In an earlier study, similarly to Bassiouni and Hackley (2014) Wood (2013) examined the consumer behaviour of then adolescent members of Gen Z. The study identified four main characteristics of Gen Z that differentiates their consumer behaviour from those of Gen Y. These characteristics are such that service providers should also consider in planning services offered for members of this generation and what can possibly alter the way financial services operated before this generation of consumers.

In their study, Bassiouni and Hackley (2014) showed that Gen Z children develop their sense of brands and commercial awareness similar to that of adults. The findings of Wood (2013) are in line with this, as the first characteristic according to this study is their need for constant innovation. As Gen Z children experienced constant technological development throughout their entire lifetime, they are highly aware of the evolution of commercial products and are expecting them to develop these products and services even further. This need for constant innovation of products and services could support the second main characteristic of Gen Z-ers as consumers, convenience. Fast food, e-commerce, easy to cook food have always been part of their life and Gen Z children grew up not having to experience anything that was “inconvenient” for them. Their reliance on convenience goods and services is explained as the result of their parents growing up (mostly Gen X children), how they usually consumed convenience foods and relied on such goods, and how this attitude from their childhood affected how Gen X parents raised their Gen Z children.

The third characteristic of Gen Z-ers as consumers is their need for security. Like their parents, children who grew up during recessions seem to be less confident in their spending and are more careful in where they spend their money. Gen Z adolescents and young adults might be very brand-aware, but less brand-loyal, meaning that even in their financial decision they might be willing to change easier. Las, but not least, members of this generation want to be able to escape from reality. Gen Z children are under constant stress and pressure from a young age and they need to have a way to escape reality even more than any of the generations ever before. This need for escapism can be served through technological advancements, social networks and the internet, by creating virtual worlds in which members of this generation can experience perfection, but at the same time such advancements can pose never-seen-before threats both from the perspective of their personal development and personal finances (Wood, 2013). Thanks to the technological development therefore consumer behaviour of Gen Z consumers has changed greatly compared to older generations. They are present on the internet and are not afraid of using it, feeling the most comfortable ever with being online. They can also collect information faster than ever before -even if in some cases they might feel overwhelmed by the amount of information available (Mohr-Mohr, 2017) and are using the world wide web for searching for information and as well to educate themselves (Beck-Garris, 2019, Harputlu-Kendirli, 2019).

Generation Z adolescents and young adults therefore have different expectations towards products and services which affects the financial markets as well. As Gen Y and Gen Z consumers are representing almost half of the current workforce, they have a strong influence in the transformation of the financial sector (Black et al. 2018). Even though currently the majority of Gen Z consumers are not profitable for financial companies, however as most of them are about to enter the labor market it is the interest of financial companies to maintain a good relationship with them, by adjusting their services to their needs, which led to the emergence of fintech services. Mondres (2019) summarized how Gen Z consumers transform financial services: as they have never lived in a world without the internet, they are highly dependent on the digitalization of services and online access to their finances. They expect innovative digital solution which are at the same time very convenient to use -in line with the earlier findings of Woods (2013)- and expect financial services to help them achieve their financial goals. Financial service providers have already invested highly in digital innovation to ensure regulatory compliance, surveillance and defense against financial crimes (Black et al. 2018) but should also invest in further development to serve the need for innovation by Gen Z consumers.

Financial Literacy of Generation Z

Concerning the financial literacy of Gen Z in this highly digitalized era, when fintech services, cryptocurrencies and other digital financial tools are spreading at a rapid pace a new threat emerges: young people have to learn to navigate not only between the elaborate financial concepts and services, but at the same time have to be aware of the dangers of living their life in the online world and have to learn how to protect their digital identity. The misuse of personal data and financial crime is not the invention of modern times, they did exist already before computers were invented, however nowadays financial literacy comprises not only of the knowledge, behaviors and attitudes of such financial fields are everyday financial issues, credits and loans, investments, savings, retirement planning etc., but is complemented with the area of digitalization and digital financial tools and services, awareness about the threats of managing finances online and as well how to protect our digital self, areas which were not considered to be a part of financial literacy before.

Several studies have been carried out to discover financial literacy characteristics of Gen Z adolescents and young adults. The main finding of these studies is that mainly due to their lack of experience in finances, they are less financially literate than adults and financial illiteracy is very high in general among the youth (Lusardi et al. 2010). Financial literacy characteristics of Gen Z are highly dependent on their cultural setting, and can be explained by the cultural, social and economic differences between countries, but there a few key elements in which Gen Z-ers are similar around the world. Gen Z-ers did not yet have time to demonstrate their financial behaviour because of their young age (Harputlu-Kendirli, 2019, Mondres, 2019), however studies showed that even though their knowledge is quite limited about personal finances, they recognize its importance and are very concerned about their future finances (Beck-Garris, 2019, Mondres, 2019). They are also aware of their lack of knowledge, but are eager to educate themselves further, however not necessarily within the framework of the traditional education system (Beck-Garris, 2019).

Their main concern concerning the future of their finances is funding their college studies. This generation seems to be the most educated ever, the majority of them is willing to continue their studies in tertiary education, however all around the world they are generally worried about not being able to finance their education. Studies from the US (Beck-Garris, 2019, Mondres, 2019) showed that Gen Z young adults are willing to take up loans to finance their education while at the same time feel stressed and insecure about the repayment of them, but overall, are optimistic about their future and believe in digital financial services to be able to improve their financial situation. Our findings are somewhat contradictory to what the literature suggest about financial literacy and the use of digital services of Gen Z-ers, and in the upcoming chapters we take an attempt at describing digital financial literacy of

Gen Z adolescents in Hungary and to identify the key elements of how digitalization has changes how Gen Z-ers manage their finances and view the future of their finances.

Methodology

Our research was based on the results of the Econventio test. The Econventio test is a survey conducted every year in Hungary since 2011, which aims to examine and develop the financial culture and attitudes of high school students. Each year, students from high schools complete the questionnaire via an online interface. The popularity and success of the test is demonstrated by the fact that in recent years the number of participants across Hungary has always exceeded 10,000 people. In addition, since 2015, the same questionnaire has also been quired among the adult population, so the results of younger and older generations are comparable.

The test itself consists of 40 questions, which can be divided into two main categories. On the one hand, there are 30 questions about practical, financial knowledge. On the other hand, there are 10 further questions about of financial attitudes of the participants. Besides these, the test also contains demographic questions. The questionnaire consists of six different modules and measures the knowledge and attitudes of the respondents in certain topics. These topics are the following: General financial knowledge and banking services; Investing, saving; Lending; World of work; General economic knowledge; Insurance, retirement. Each topic has 5 knowledge questions, one of which is always a calculator task, and each module has one or two attitude questions. This is how the test is structured. However, most of the questions change every year, but there may also be some questions that have already been included in a previous test, so it is possible to examine certain knowledge or attitude questions over time. As technology has been through a huge development in the last years, digital finance and FinTech has become more and more important. That is the reason why we also considered it important to examine this topic. Therefore, the test also included digital questions in the last three years (2017-2019). In 2017 the test included one knowledge and one attitude, in 2018 five knowledge, and in 2019 three knowledge questions related to digital finance. In this research, we concentrated on the analysis of these digital questions and we also made a comparison between the results of adults and high school students. However, before we describe our results, first we will briefly demonstrate the patterns can be seen from the aggregate results of the three tests.

Findings

We used Excel Pivot and IBM SPSS statistics to examine our results. We analyzed the data with the help of descriptive statistics. We used tables and combination tables, where we mainly looked at distributions and average scores across different variables and categories.

11485 students completed the questionnaire in 2017, who were able to correctly answer an average of 13 out of 30 knowledge questions, with an average performance of 44.72%, and there was only one person who answered all the 30 questions correctly. In 2018, 11023 high school students took part in the survey, who were able to answer an average of 10.56 questions out of 30, with an average score of 35.2%. In this year there was nobody among the participants who had maximum points, but there was one person who answered 29 questions correctly. Next year (in 2019), 12026 young people completed the test, with an average of 10.54 points, so their average performance was 35.1%. In this year, there was also no one who had maximum points. The best score was 28 points, which was also accomplished by one person.

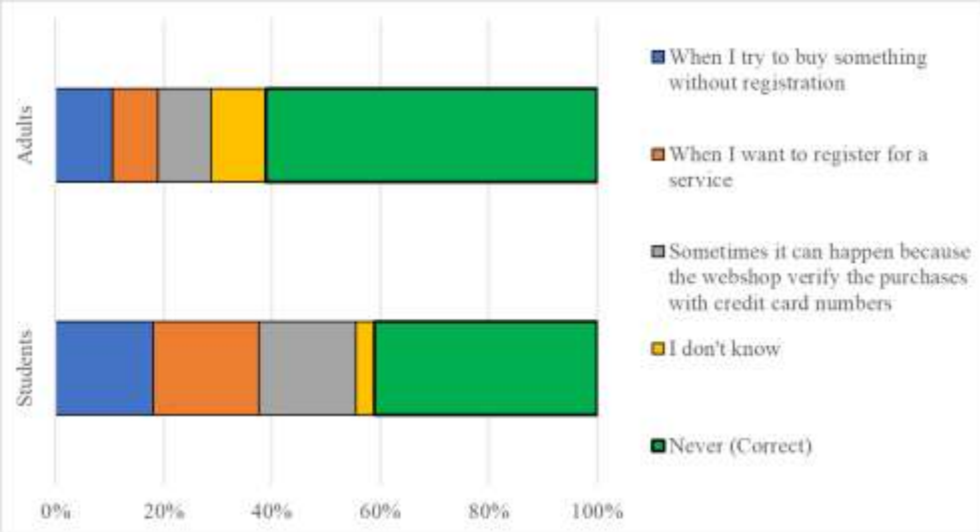
Based on the tests of these three years, in general, we can say that as the age of participants is increasing, the average number of questions answered correctly also increases. Overall, it is also true that the average score of men was better each year, but if we investigate the data according to participants' age, it can be seen that the average male score is higher in the younger age groups. However, later this changes and women perform better from the age of 18 years. Based on residence, it can be stated that people living in county towns tend to perform better, while students from the capital city tend to have the weakest results on the test. In addition, we can see that the highest average results by class type were achieved by those who marked the "other" category. For the other types of classes, where the vast majority of participants were in secondary school age, high school students achieved the best average results, while secondary school pupils had the weakest scores. In addition, the average score of those who study economics or commerce was higher than of those who do general or other type of studies. However, if we take a closer look at this result, we can see that class type also has an impact on the results, since 76% of those who study economics are from vocational high school, who achieved better results than the average. Finally, every year those who have previously completed an Econventio test have achieved better results on average than those who have not met the test before. This means that we can observe how the test is achieving one of its goals, which is the development of the financial knowledge of the participants.

Generation Z is at Higher Risk from Online Frauds

Generation Z youngsters are digital natives. They prefer to do their everyday things online, such as banking, shopping or any kind of personal administration. This makes them extremely vulnerable to online frauds. Our surveys that made in 2017 and 2019 support that Generation Z should be more careful in the online world. In 2017 we asked the following question from high school students and from adults either; What would you do, if you got an email from your bank, in which you were asked to enter your credit card number for data reconciliation, and after that you could receive a discounted account management service as a reward for this? Nearly 96 percent of the adults knew the correct answer that was they would never give out their credit card numbers for an email request. But only 76 percent of the high school students knew the correct answer. 5 percent of the youngsters answered that they would give their credit card numbers, because the bank have already known that. 8 percent marked the following answer: "I would give my credit card numbers if the email included my bank's trademark.", and the left 11 percent answered they would examine the offer and if that was really favorable they would give their numbers. It means that one of every fourth high school students would give his credit card numbers for such an email request. However, we can observe a connection between age and rate of the correct answers. For example, over 80 percent knew the correct answer among the 19 years old students. But, in our opinion the remaining 20 percent also could be a serious cybersecurity concern.

We have a similar question in the 2019 survey. We asked them in which case does a reliable online webshop ask for your credit card numbers by email. The rate of the correct answers was significantly lower than in the previous question. Only 61 percent of the adults knew the correct answer, which was a simply "Never”. But the results of the Gen Z were much worse. Just 41 percent of the youngsters marked the correct answer. More than half of the respondents thought that this could be possible in some situations. According to 19 percent of high school students a reliable webshop could ask for our credit card numbers when we try to buy something on the website without registration. 18 percent thought the webshop could do that when we want to register for some kind of special services, and other 18 percent chose the following answer: „Sometimes it can happen because the webshop verify the purchases with credit card numbers.” These results support our claim that youngsters are at higher risk from online frauds.

Figure 1. *In which case does a reliable online webshop ask for your credit card numbers by email? Distribution of responses, %*



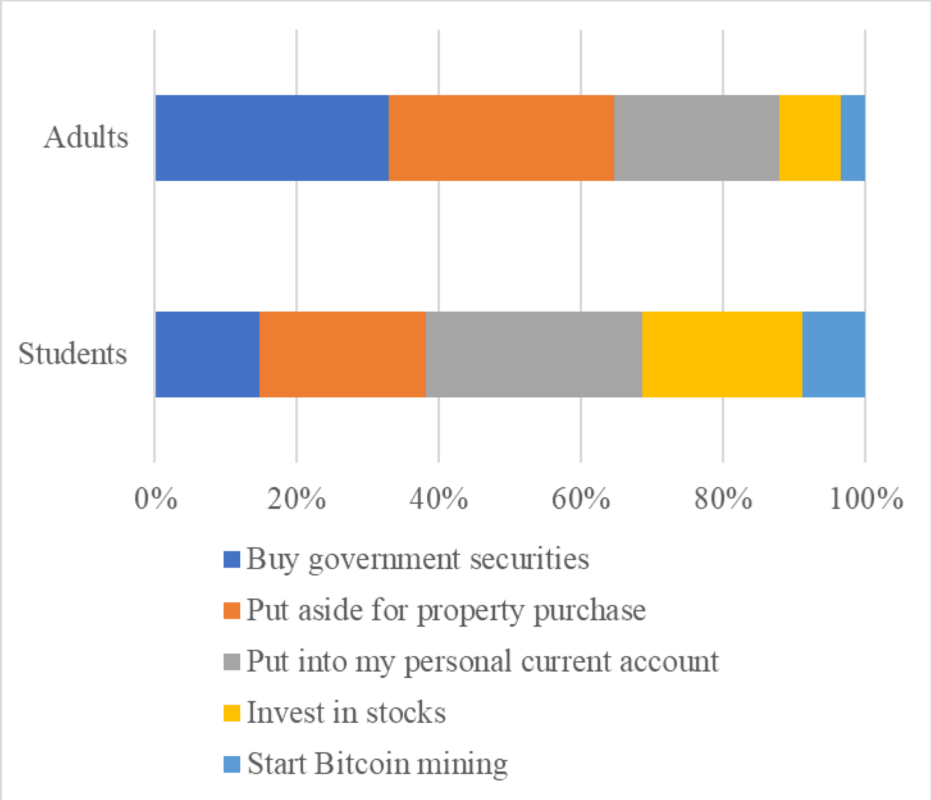
Source: Econventio 2019.

Gen Z is Open-minded about Financial Investments

According to our results, youngsters of Generation Z are more open-minded about financial instruments than previous generations, but in addition they have a higher risk appetite. We based this opinion on received answers from three questions. First of all we asked the following question also from high school students and from adults, in 2017: „What would you do if one of your acquaintances offered an excellent investment opportunity that result yield far above the market rates without any risk?" While 84 percent of the adults answered that they would not accept this opportunity because there could not be such an investment that provide return significantly higher than the market rates without any risk. But only half of the high school students chose this option. Nearly one-third of them answered if they had some amount of savings, they would take this opportunity, but only with the condition of signing a contract with the bidder. 9 percent of the youngsters would accept the offer if someone else recommended that too, and 8 percent would take this opportunity without any kind of conditions, because they wouldn't be able to achieve such a high return with other forms of investments. Although as the age increases the proportion of those who reject this offer slightly increases as well but does not exceed over 60 percent even among the ages of 18 or 19.

In the next year we tried to investigate the attitude of Generation Z towards formal financial investments. We asked them if they had 500 thousand HUF of savings what kind of investment form would they choose? 88 percent of the adults would invest this money in government securities, put aside for property purchase or just put this into their personal current account. However, only 69 percent of high school students would choose these low-risk investment forms. 23 percent of the youngsters would like to invest this money in stocks, and 9 percent wanted to start Bitcoin mining. From this view we can also see that Generation Z is interested in innovative and higher risk investments. However, we should draw attention to the financial vulnerability of Generation Z again. Because nearly two-third didn't know the correct answer for the question of what exactly Bitcoin mining means among the youngsters who wanted to start Bitcoin mining.

Figure 2. *You have 500 000 HUF. Which investment would you choose? Distribution of responses, %*



Source: Econventio 2018.

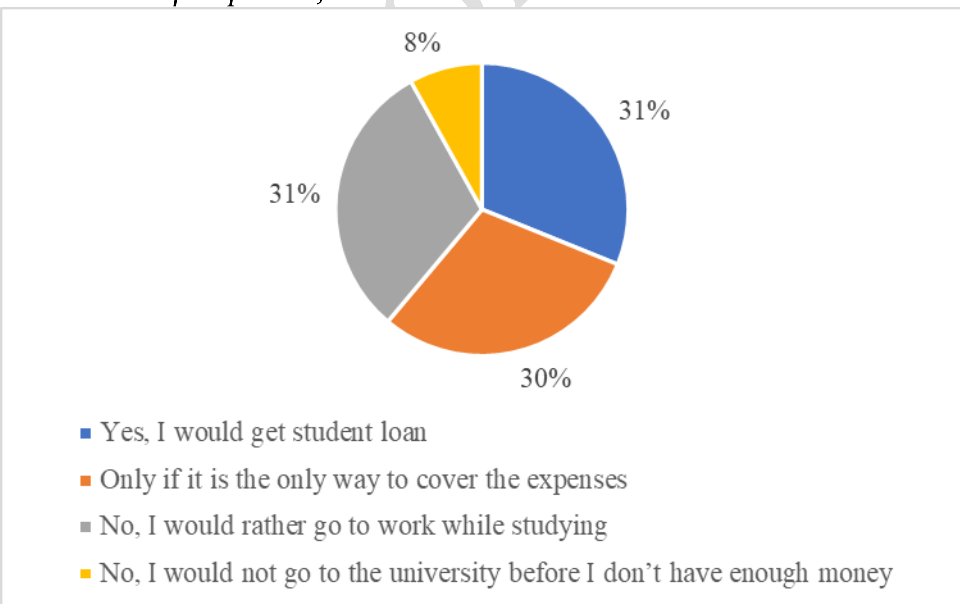
In 2018, we were curious about this young generation's entrepreneurial spirit. Based on the responses, 28 percent of the high school students want to start, and 41 percent would rather start his own business than work as an employee. Only 31 percent wouldn't like to start his own business or would rather be an employee than an entrepreneur. Compare with the adults, the proportions were almost reversed. Only 35 percent of the adults would like to start his own business and nearly two-third of them wouldn't.

Our conclusion is that generation Z is not only interested in innovative and higher risk investments, but also wants to start his own business in the future. Therefore, it could be very important for them to have enough financial knowledge to make wise choices.

Hungarian youngsters would like to avoid loans

Our research reveals that Hungarian youngsters have a different opinion about loans. If they could, they would like to avoid borrowing money at all costs. In 2018 we asked them the following question: “If you would like to go to university as a fee-paying student but your family could not pay all the expenses, would you get any kind of student loan?” Parallel with this, we asked adults would they support their children in borrowing money? Less than third of the students answered they would use some form of student loans, and 30 percent would take this option if this could be the only way to cover their expenses. There was a similar rate, 31 percent were those who would rather go to work while studying at the university, and 8 percent said they would not go to the university until they don’t have enough money to cover the expenses. The results were similar in the adults’ group. So, we can assume students and their parents have the same opinion about student loans. Only 21 percent of the adults said they would allow their child to get student loan without any conditions. 38 percent would support them in this option if there wasn’t exist other solution. And the remaining 41 percent suggest their child to go to work or don't start the university before they don't have enough savings for the academic years.

Figure 3. *If you would like to go to university as a fee-paying student but your family could not pay all the expenses, would you get any kind of student loan? Distribution of responses, %*



Source: Econventio 2018.

We tried to approach the topic of loans from other view in 2019. We asked the adults in which case would they get a loan, and at the same time we asked high school students in which case would they advise their parents to get a loan. Almost one quarter of the students advised their parents to never use loans and try to get money from other sources. Nearly one-third said their parents could use loans but only if there is not any kind of other way to pay expenses. Only 5 percent of Generation Z suggested their parents to use only take-out loans, which is used to replace a previous loan with a higher interest rate, because they can save some money with this construction. The second least preferred option was the so-called consumer loan. Only 7 percent would advise their parents to get loans in that case their family needs something, but they would rather pay for it later. The proportion of answers were related to the adults' in this case too. There were 27 percent of the adults who wouldn't like to get any kind of loan. 31 percent would use loans to solve urgent cases if they couldn't get money from other sources. And the option of consumer loans was marked by 10 percent of them.

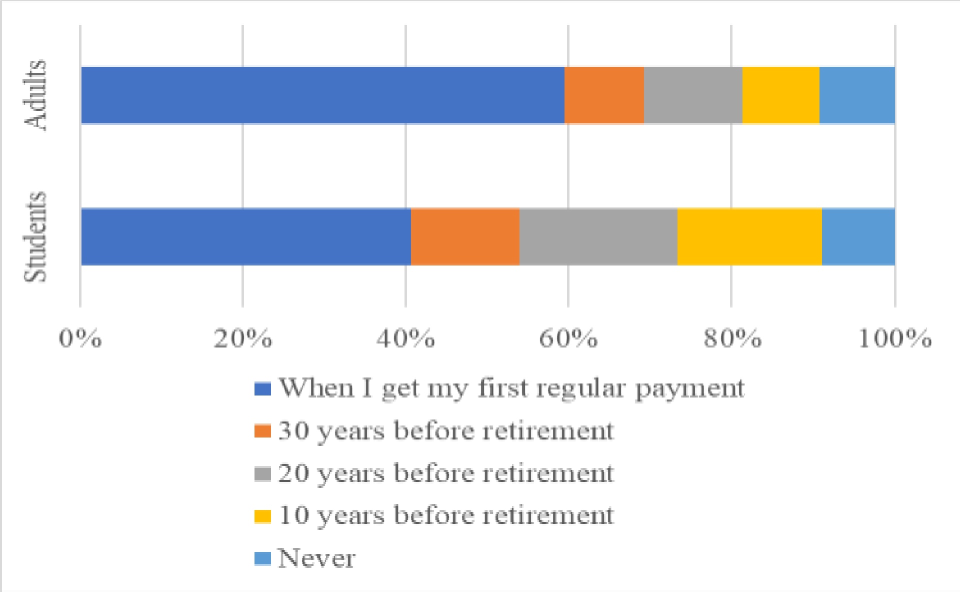
As a result of these questions, youngsters' opinion about loans is strongly like the adults' view. Parental influence is likely to have a stronger effect on the kids in this topic.

Gen Z is Extremely Optimistic about the Future

We base this statement on three different survey questions. First, we asked them at what age will you be able to make your stabile life conditions. 11 percent of youngsters said they will be able to reach their stable life conditions before the age of 20. Most of them, 63 percent answered they will be able to make this at age of 21-30. 22 percent estimated this moment for later periods, and only 4 percent said that they will never be able to make that. The age of 21-30, which was the most chosen option sounds very optimistic. We asked adults a similar question; "At what age were you able to make your stabile life conditions? Nearly half of them answered that they have not been able to achieve that yet.

Youngsters of generation Z are very optimistic about their retirement years too. In the same survey we also asked them what they think about retirement years, when should they start to save money for retirement years. Only 41 percent answered that they should start to save money from their first regular salary. And more than half of Generation Z said they can wait, and they shouldn't have to save money 10, 20 or 30 years before their retirement.

Figure 4. *When should you start to save money for retirement years? Distribution of responses, %*



Source: Econventio 2018.

We have two evidence that generation Z is much more optimistic than realistic. First, unlike youngsters, a much higher proportion, 60 percent of adults answered that they should start to save some money from their first payment. Second, in 2019 we also asked them where their retirement money will come from. One-third of the students said they do not expect to have state-guaranteed pension, so they could only rely on their own savings. Nearly half of them, 48 percent answered the state-guaranteed pension would not be enough, so they should start to save money before retirement years. 10 percent were not really interested in this issue, and 9 percent thought that the state-guaranteed pension would be enough for the retirement years.

To summarize these results, we found that youngsters of Generation Z believe that they will be able to make their own stable life conditions in their 20s. In addition, they do not necessarily have to save money at young age for their retirement years, even though they can't rely on state-guaranteed pension.

Conclusions

Our research aimed at providing a comprehensive picture of the financial literacy of Hungarian students, with a focus on the digital financial knowledge of members of Generation Z. This age group grew up in the 21st century, in which this generation is and was exposed to countless digital and smart devices. The biggest advantage of this exposure is that unlike previous generations they learned how to obtain and process information very quickly. However, our findings are in line with the literature in showing that even though obtaining information has never been as easy and fast as it is currently, Gen Z students might not be able to comprehend this extremely large amount of information effectively.

Our research was based on questionnaires filled out by more than 10,000 students from around the country as part of the Econventio financial literacy survey in the three consecutive years of 2017-2019. During the survey we investigated financial knowledge and attitudes of youngsters between the ages of 14 and 19 years.

We found that the additional available information does imply directly that young people are more knowledgeable about the world around them, and the financial knowledge of Hungarian students, especially those from the secondary schools is at an extremely low level. Their attitudes and behaviors in connection to digital financial services is in line with what the literature has described, their sense of discretion when it comes to the protection of personal data is very low and are not educated about data protection methods.

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