DE GRUYTER
OLDENBOURG

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FINANCIAL LITERACY AND FINANCIAL EDUCATION

THEORY AND SURVEY

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The book is funded by the Polish-German Science Foundation within the project: *Financial education and financial literacy for youth in Germany and Poland. Transfer of knowledge, analysis and recommendation* (No. 2017-03).

Projekt wspierany przez Polsko-Niemiecką Fundację na rzecz Nauki.
Gefördert aus Mitteln der Deutsch-Polnischen Wissenschaftsstiftung.

ISBN 978-3-11-063296-5
e-ISBN (PDF) 978-3-11-063695-6
e-ISBN (EPUB) 978-3-11-063306-1

Library of Congress Control Number: 2018966240

Bibliographic information published by the Deutsche Nationalbibliothek
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available on the Internet at http://dnb.dnb.de.

Cover image: Vijay kumar / DigitalVision Vectors / gettyimages.de
Typesetting: Integra Software Services Pvt. Ltd.
Printing and Binding: CPI books GmbH, Leck

www.degruyter.com

Preface

> Education is the most powerful weapon which you can use to change the world.
>
> Nelson Mandela

Financial education leads to financial literacy and to financial capability. Financial education is regarded as a core component of the financial empowerment of individuals. This is the conviction of many scientists and public authorities. But the understanding what has to be done and what are the most effective activities and programs differs very much within and between countries. Furthermore, the terms were used by different organisations and authors in different ways and have taken on a variety of meanings. The term financial literacy is often used to summarize knowledge, skills, attitudes, behavior, abilities and motivation which are effectively used to achieve a personal financial well-being. Financial education whether is done by parents, school or other media is the driving force to gain financial well-being. Financial education has always been important for households in helping them budget and manage their income, save and invest efficiently, and avoid becoming victims of fraud. Having regard to the fact that as financial markets become increasingly sophisticated and households assume more of the responsibility and risk for financial decisions, especially in the field of retirement savings, financially education becomes more and more important. All over Europe many young adults aged 18–25 years are over-indebted. Very often they become over-indebted because of bad household management, unfavorable mobile phone contracts, fines due to missing public transport tickets, too many online orders, unpaid loans and in general due to a consistent low income situation. Financial education when they are still at schools intends to prepare the youth better for the challenges of life and to avoid over-indebtedness.

Therefore the University of Szczecin, SKEF (Association for Promotion of Financial Education) and the GP-Forschungsgruppe (Institut für Grundlagen- und Programmforschung) have started this joint research project. It has a two-fold approach. First, the landscape of existing programs for financial education and literacy was pictured in both countries. Especially it was described how these programs are used in school which is in a relevant way not only determined by availability and resources but by the school system as well. The differences between the Polish and German school system have to be taken into consideration. The second part covers the empirical analysis of financial education. Despite the importance of the subject, the academic literature has given limited attention to how financial education is measured. Therefore the authors made a review to find out which tools used in international studies were appropriate. Most of the research focusing on financial awareness and financial literacy was based on the use of questionnaire surveys. After discussing the pro's and con's and considering all the doubts concerning the ways of reaching young respondents, in the presented study on financial

https://doi.org/10.1515/9783110636956-201

awareness of young Poles and Germans the authors decided to use the traditional auditorium survey method/classrooms survey (PAPI).

The surveys were conducted with more than 2,000 students of the 10^{th} classes (or equivalent) in Polish and German schools. By these surveys, information has been collected about the status of financial knowledge, skills, attitudes, behavior and information needs. As the results show there are not many important differences between Polish and German students regarding financial knowledge, skills, attitudes and behavior. In general, the students have a very high opinion of their financial knowledge and managing capabilities. It should be considered that the majority of students internalized the virtue of thrift in their parental home. As a result, only very small group of students have debts and, if so, they owe money to their parents and family members. But below 10% of the students, according to their self-perception, experience precarious financial situations as their money does not last until the end of the month and they have to borrow money or suffer money problems. All students express specific needs for financial information, e.g. possibilities for increasing the income and reducing expenditures or about the costs related with the ownership of cars.

In summarizing the results the authors conclude that financial knowledge, skills, attitudes, behavior and needs are determined on one hand by the socio-economic situation in a country on the other hand on the circumstances of the specific life situation of the students. The financial prevention activities should be closely linked to the evolving lifestyle of young adults. That means students should be taught how to negotiate contracts, explained the obligations of the contracts, the financial consequences of getting and owning a car, leaving the parental home and founding their own household etc. – before they reach the age of majority. The project partners consider in their recommendations that this process needs the allocation of adequate resources, the preparation of teachers to lead financial instruction, the practice relevance, the involvement of parents and the age-appropriateness of the educational programs. As in many other countries Poland and Germany should create a national strategy for financial education. By this the lack of coordinated actions at the level of the whole country could be avoided. However, the implementation of a national strategy faces for the two project countries the fact that the Polish school system is centralist whereas the German system is federal. This difference has consequences for the implementation of curricula as well as for the conduction of research studies. Knowledge and financial skills, are also part of the concepts of information society and knowledge economy. Therefore, all institutions, both formal and informal, should be interested in building appropriate financial knowledge of all social groups, but especially of their young members. The improvement of financial education of the youth and young adults is important. However, it should not be forgotten that people get indebted primarily due to various adverse conditions and circumstances of life. The prevention of conditions has therefore to be seen as equal to the prevention of behavior.

Szczecin/Bernau by Berlin, October 2018

Contents

1 A theoretical framework for financial literacy and financial education

Beata Świecka

1.1 Operationalization of financial literacy

The earliest known use of the term financial literacy can be traced back to 1992, when a report for the National Foundation for Educational Research (NFER) commissioned by NatWest Bank, defined financial literacy as "the ability to make informed judgments and take effective decisions regarding the use and management of money" (Noctor, Stoney, Stradling, 1992). Financial literacy as a theoretical construct was championed by the Jump$tart Coalition for Personal Financial Literacy in its inaugural 1997 study *Jump$tart Survey of Financial Literacy Among High School Students*. In this study Jump$tart defined "financial literacy" as "the ability to use knowledge and skills to manage one's financial resources effectively for lifetime financial security." As operationalized in the academic literature, financial literacy has taken on a variety of meanings; it has been used to refer to knowledge of financial products (e.g., what is a stock vs. a bond; the difference between a fixed vs. an adjustable rate mortgage), knowledge of financial concepts (inflation, compounding, diversification, credit scores), having the mathematical skills or numeracy necessary for effective financial decision making, and being engaged in certain activities such as financial planning. Efforts to measure financial literacy date back to at least the early 1990s when the Consumer Federation of America (1990; 1991; 1993; 1998) began conducting a series of "Consumer Knowledge" surveys among different populations which included questions on several personal finance topics: consumer credit, bank accounts, insurance, and major consumer expenditures areas such as housing, food, and automobiles (Hastings, Madrian, Skimmyhorn, 2012). The 1997 Jump$tart survey of high school students referenced above has been repeated biennially since 2000 and was expanded to include college students in 2008 (Mandell, 2008b, pp. 163–183).

One of the first institutions to introduce the concept of financial literacy on a large scale was OECD. The International Network on Financial Education has defined financial literacy as "a combination of awareness, knowledge, skills, attitude, and behavior necessary to make sound financial decisions and ultimately achieve individual wellbeing" (Atkinson and Messy, 2012). This definition is now globally acknowledged and was also endorsed by the G20 leaders in 2012 (G20, 2012). The definition makes it clear that financial literacy is something more than knowledge, it also includes attitudes, behavior, and skills. It stresses the importance of the decision making – applying knowledge and skills to a real-life process – and indicates that the impact should improve one's financial wellbeing. According to PISA (2017) "financial literacy is knowledge and understanding of financial concepts and risk, and the skills, motivation, and confidence to apply such knowledge and understanding in

https://doi.org/10.1515/9783110636956-001

order to make effective decisions across a range of financial contexts, to improve the financial well-being of individual and society, and to enable participation in economic life".

The definition has two parts. The first refers to the kind of thinking and behavior characteristic for the domain. The second part refers to the importance of developing the particular literacy. In PISA's terms "literacy" refers not only to the capacity of 15-years-old students to apply knowledge and skills in a key subject but also to the students' ability to analyze, reason and communicate as they pose, solve and interpret problem in a variety of situations (PISA, 2017).

According to the National Financial Educators Council financial literacy is "possessing the skills and knowledge on financial matters to confidently take effective action that best fulfills an individual's personal, family and global community goals" (NFEC, 2014). The OECD/INFE members agreed that various terms used to describe this concept (including, in particular, financial literacy and financial capability, but also financial culture and financial insight) could be used relatively interchangeably as they reflect similar perceptions of the reality they aim to cover. It was therefore decided to use the most common international term, financial literacy, for the purpose of this measurement survey (INFE, 2011). Financial literacy is knowledge of financial concepts and how the knowledge is used to make financial decisions, taking into account available resources and the unique situation for each individual or family (Delgadillo, 2014). According to Xiao (2016), the second component creating financial capability, in addition to the financial literacy, is the financial behavior, by which one should understand human behaviors relevant to money management. Common financial behavior includes behaviors related to earning, spending, saving, and protecting money (Xiao, 2016).

In the literature of the subject we do not have one, commonly agreed definition. The financial literacy means different for different people and organizations. Table 1.1. presents an overview of various definitions of financial literacy.

Table 1.1: Overview of financial literacy definitions.

Author	Year of publishing	Definition of financial literacy
PISA, Organisation for Economic Co-operation and Development	2017	[In young people] knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life.
Xiao	2016	Financial literacy has not yet been directly linked to how household choose among different kinds of assets.

Table 1.1 (continued)

Author	Year of publishing	Definition of financial literacy
Lusardi and Mitchell	2014	Financial literacy is peoples' ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions. Financial literacy has been defined as the level of financial knowledge and the ability to apply the knowledge to improve financial status.
Delgadillo	2014	Financial literacy is knowledge of financial concepts and how the knowledge is used to make financial decisions, taking into account available resources and the unique situation for each individual or family.
OECD/INFE	2012	Financial literacy is a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial well-being.
Gale and Levine	2010	Financial literacy is the ability to make informed judgments and effective decisions regarding the use and management of money and wealth. Financially illiterate households make poor choices that affect not only the decision-makers themselves, but also their families and the public at large, making the improvement of financial literacy a first-order concern for public policy.
Bernheim and Garrett	2003	Financial literacy is not an isolated category but it is a specialized part of economic literacy which is related with the ability to ensure income, to move on the labor market, to make decisions about own payments and the ability to realize the possible consequences of the own decisions on the current and future income.
Noctor, Stoney and Stradling	1992	Financial literacy is an ability to make informed judgments and to take effective decisions regarding the use and management of money.

Source: Xiao (2016); OECD (2017); Gale and Levine (2010); GAO (2014); Lusardi and Mitchell (2014, 2006); Bernheim and Garrett (2003); Noctor et al. (1992); Kempson et al. (2017); PISA (2017) .

In order to achieve adequate transparency in the area of financial literacy it is essential to operationalize the main concepts and related terms. The broadest concept is financial capability, which is an important factor for the well-being of the household members. Financial capability is an ability to apply appropriate financial knowledge and perform desirable financial behaviors to achieve the financial goals and enhance financial wellbeing. Financial capability is a combination of financial literacy and financial behavior meant to achieve financial well-being (Xiao, 2016).

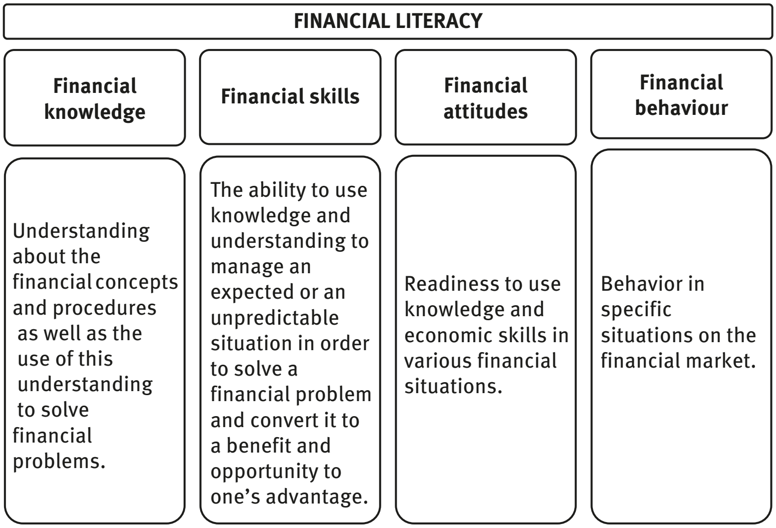

Figure 1.1: Elements of financial literacy.
Source: Author's own work.

1.2 Elements of financial literacy

Financial literacy consists of the following elements (see Figure 1.1):

1. Financial knowledge – knowledge and understanding of economic concepts and mechanisms of the economy. Financial knowledge helps people to understand the financial concepts and procedures as well as to use this understanding in solving financial problems. It is the knowledge of how to manage the money in different usage, including the monitoring of day to day financial matters in the market and make the right choices for "financial literate" people's needs. Parts of financial knowledge include:
   – conceptual financial knowledge,
   – procedural financial knowledge,
   – and applied financial knowledge.
2. Financial skills – application of acquired economic knowledge in economic decisions (analyzes, evaluations, choices). It is the ability to use knowledge and understanding to manage an expected or an unpredictable situation in order to solve a financial problem and convert it to a benefit and opportunity to one's advantage.
3. Financial attitudes – motivation and readiness to use knowledge and economic skills in various life situations. They are the individual characteristics that take the form of tendencies towards a financial practice or action. They show the inclination or likelihood of a person to undertake a behavior.
4. Financial behavior – behavior in specific situations on the financial market.

At the APEC Workshop held in September 2013, representatives of the APEC Economies and financial literacy experts reached consensus on a basic framework outlining the common themes on financial and economic literacy (see Table 1.2).

Table 1.2: Learning outcomes for financial and economic literacy.

Dimension	Learning outcomes
Knowledge	1. Saving and Spending – distinguishing needs from wants, knowing how savings can help in achieving an individual's goal, options for saving, barriers to saving and overcoming these barriers; practicing the habit of saving is also covered. 2. Planning and Budgeting – the skill of developing an action plan towards a goal or dream. 3. Informed decision-making – involves knowing where to seek information and knowing the consequences of your actions.
Skills	1. Earning money – covers various topics around livelihood, employment and entrepreneurship. 2. Managing money – ability to save and spend, practicing the habit of planning and budgeting and acting upon those plans. 3. Investing Money – exploring options of investing money. 4. Understanding cost of borrowing – knowing options for credit and understanding the consequences.
Attitude	1. Attaining a long-term focus or view into the future – reflecting/considering actions and having sensitivity to risk. 2. Considerate of well-being of others – reflecting on the impact on others; having a sense of responsibility towards others; sense of empathy and compassion. 3. Developed sense of self-worth with an ongoing interest in continuous learning. 4. Passion for the projects that one is involved in, as well as passion towards one's own self-development.
Behavior	1. Enacting habits of saving, budgeting and prioritizing. 2. Exhibiting entrepreneurial behavior and work ethic – making responsible choices. 3. Exercising focus on making an effort with an emphasis on "grit". 4. Demonstrating charitable, empathetic and compassionate behavior.

Source: APEC (2014).

The OECD Expert Subgroup on the Measurement of Financial Literacy agreed that the terms "financial literacy" and "financial capability" "could be used interchangeably as they were reflecting similar perceptions of the reality they aim to cover" (Kempson, Finney, Poppe, 2017).

1.3 Conceptualising financial education

Financial education is a crucial foundation for raising financial literacy. According to Article 5b of the Convention on the Organization for Economic Co-operation and Development of 14th December 1960 financial education has always been important for households in helping them budget and manage their income, save and invest efficiently, and avoid becoming victims of fraud. Having regard to the fact that as financial markets become increasingly sophisticated and households assume more of the responsibility and risk for financial decisions, especially in the field of retirement savings, financially educated individuals are necessary to ensure sufficient levels of investor and consumer protection as well as the smooth functioning, not only of financial markets, but also of the economy (OECD, 2005b).

Financial education has gained a prominent position in the global policy agenda. It is now universally recognized as a core component of the financial empowerment of individuals and the overall stability of the financial system (OECD, 2017). The definition of financial education was proposed by the Organization for Economic Cooperation and Development in 2005 (see Table 1.3). According to the OECD, "financial education is a process in which consumers and financial investors improve their understanding of financial products, concepts and threats and through information, instructions and / or objective advice, develop skills and confidence to better understand financial risks and opportunities, make informed choices, know where to look for help, and take other effective actions to improve their financial well-being "(OECD, 2016b). Financial education is important in increasing knowledge and financial awareness, which is to translate into the effectiveness of financial decisions. (Lusardi and Mitchell, 2014). Financial education has a positive impact on consumer behavior and financial well-being. You can look at financial education from different points of view, which is why I suggest treating it as: a process, value, set of activities, multi-purpose area and capital.

Financial education is defined and acknowledged as a complement to financial protection, inclusion and regulation, as a way to improve individual decision making and well-being, and support financial stability and development (PISA, 2017). Financial education is the answer to the low level of financial knowledge, which is an essential and basic element influencing the financial inclusion. The definition of financial education developed by the OECD in 2005 already identifies financial well-being as one of the main outcomes of the financial education process: "the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being" (OECD, 2015). Financial education is believed to improve financial literacy, motivate desirable financial behaviors, and enhance financial well-being among consumers (Lusardi and Mitchell, 2014).

My suggestion is to introduce the notion of effective vs. ineffective financial education, related to the benefits education brings for the households, financial institutions, and the economy in general. The effective financial education brings

Table 1.3: Definition of financial education.

Authors	Year of publishing	Definition of financial education
OECD	2005	Financial education can be defined as "the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being". Financial education thus goes beyond the provision of financial information and advice, which should be regulated, as is already often the case, in particular for the protection of financial clients (i.e. consumers in contractual relationships).
PISA	2017	Financial education is acknowledged as a complement to financial protection, inclusion and regulation, as a way to improve individual decision making and well-being, and support financial stability and development.
Lusardi and Mitchell	2017	Financial education is believed to improve financial literacy, motivate desirable financial behaviors, and enhance financial well-being among consumers.
Świecka	2018	Financial education is a complex process which can begin at any stage of life. It involves financial knowledge and financial skills used for more effective personal finance management. Not every increasing knowledge is associated with increasing efficiency in finance. Knowledge is not enough to have financial success. For education to be effective, it needs to be deepened. The financial market is very dynamic and requires constant updating of knowledge and activities.

Source: Author's own work based on: OECD (2005b); PISA (2017); Lusardi and Mitchell (2014).

measurable benefits in a micro-scale, i.e. for the households, in a mezzo-scale – for the financial institutions, and in a macro-scale – for the economy as whole. The ineffective financial education is just the reverse.

Financial education is aimed at increasing financial knowledge and skills, rationalizing financial decisions, efficiency of personal finance management, and implementation of assumed financial and non-financial goals. It is a process that can begin at every stage of life and last a lifetime. The process of acquiring financial competences starts with acquiring knowledge, which should (but not necessarily does) translate into enhanced skills. It may end at the stage of gaining knowledge and bring about no change in the financial behavior. The recipients receive knowledge, but do not use it in practice, thereby their attitudes remain unchanged. The four pillars of education developed by the International Commision of Education for the Twenty First Century (UNESCO, 1996), which I believe can be applied to financial education, can be helpful in illustrating the described phenomenon of the distance between the acquired knowledge and the activity (see Figure 1.2).

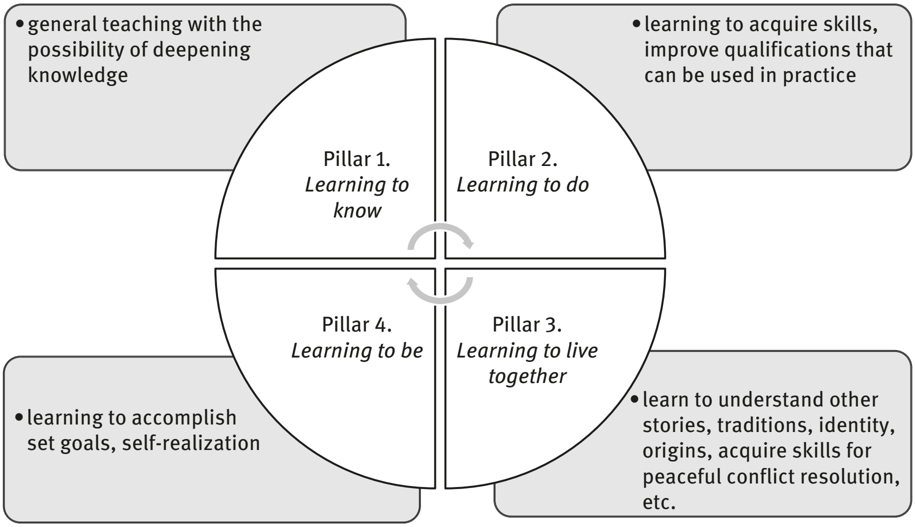

Figure 1.2: Four pillars of education.
Source: Author's own study based on: International Commission of Education for the Twenty First Century, Delors and Inni (1996), p. 85.

In financial education, it is not enough to explore pillar 1 alone, i.e. it is not enough to learn to know, it is necessary to gradually learn to improve skills that can be used in practice, to use the acquired knowledge to change one's attitudes and behaviors. The pillars 3 and 4 seem to be of slightly less significance, although in financial education it is necessary to learn to live together with others (pillar 3), to be part of society, to not expand the group of financially excluded people, and to learn that money is a tool (pillar 4) and should not be considered an end in itself.

1.4 Classification of financial education

For the purpose of this study, in order to build the theoretical basis in the field of financial education, in addition to the definition, the notion of purposefulness was introduced and the classification criteria were presented (see Figure 1.3). The goal of financial education is to educate individuals (the household members, the society in general), to increase their knowledge, awareness and skills in the field of finance in order to enhance their efficiency in money management. It should be noted that not all knowledge acquisition is associated with better financial management. Only knowledge used in practice yields the desired effect. One can have wide theoretical knowledge, but

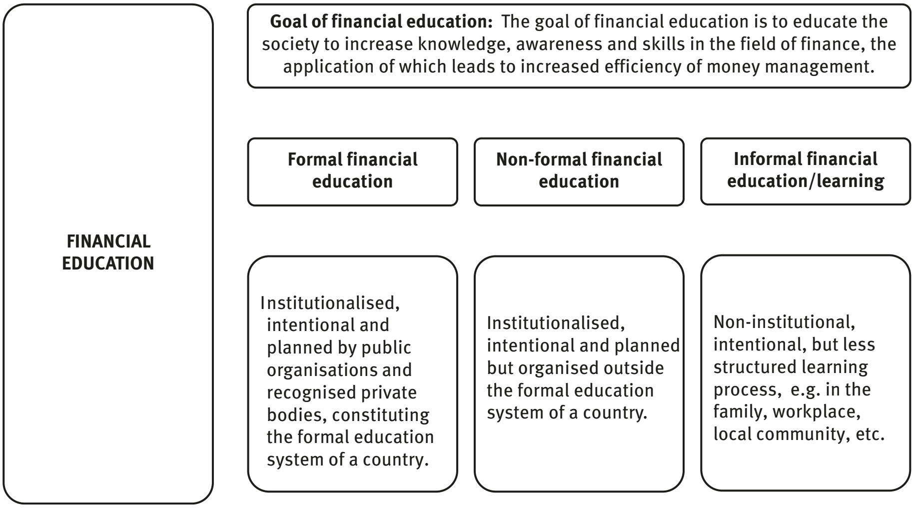

Figure 1.3: The classification of financial education.
Source: Author's own work based on: UNESCO (1996), *International Standard Classification of Education* ISCED.

only the applied knowledge is of practical use. The search for knowledge requires enormous willpower, strong incentives and, most importantly, extraordinary perseverance (Świecka, 2017).

Financial education can be divided according to several criteria (Świecka, 2016; 2017):

1. The criterion of the form of education:
   - formal education – learning at school according to curricula which enable the acquisition of full or partial qualifications;
   - non-formal education – institutional learning according to programs that do not fall within the scope of formal education;
   - informal education – gaining knowledge through experience. It involves shaping attitudes and behaviors as a result of the acquired experience, the educational impact of the environment (family, friends, work environment, etc.). It includes not only developing knowledge and skills, but also shaping attitudes and values.

2. Age criterion:
   - financial education of children – carried out from the youngest years until the end of primary school;
   - financial education of the adolescents – carried out in junior high school and high school;
   - adult financial education – carried out during the college or university studies, professional and hobby courses, trainings, workshops, study tours, seminars, conferences, from 18 upwards

3. Recruitment criterion:
   – school financial education – implemented in two segments; firstly among students, secondly among teachers involved in financial education;
   – academic financial education – implemented in two segments; firstly among students, secondly among academic teachers involved in financial education;
   – non-school and non-academic financial education – carried out in the form of competitions, extracurricular activities, workshops, training, vocational courses, etc.
4. Distance criterion:
   – stationary financial education – a form of education in which a significant part of the classes is carried out in the direct contact of the teacher with the student;
   – distance financial education (or distance learning, e-education, e-learning, virtual education, remote education) – a form of teaching using the internet, in the form of multimedia presentations, short movies, or on-line meetings with the teacher;
5. Time criterion:
   – partial education – lasting for a certain period of time, e.g. monthly and weekly courses, annual studies;
   – continuing education – consisting of moments of partial education, lasting throughout life.

The national strategies of financial education play a major role in financial education. The OECD has created a set of guidelines for the effective implementation of national financial education strategies. These guidelines can be used to develop extended programs of economic education. The rules were published in 2005 by the OECD "Principles and Good Practices for Financial Education and Awareness" (see more in Chapter 6).

Financial literacy is increasingly considered to be an essential life skill, and as early as 2005, the OECD Recommendation advised that "financial education should start at school. People should be educated about financial matters as early as possible in their lives" (OECD, 2005bb). Two main reasons underpin this recommendation: the importance of focusing on youth, and the efficiency of providing financial education in schools. The OECD has also developed the recommendation on guidelines for financial education in schools and guidance on learning frameworks on financial education which should be approved by the OECD Council and made public in May 2012. Younger generations are not only likely to face ever-increasing complexity in financial products, services and markets, but they are more likely to have to bear more financial risks in adulthood than their parents. In particular, they are likely to bear more responsibility for the planning of their own retirement savings and investments, and the coverage of their healthcare needs; and they will have to deal with more sophisticated and diverse financial products. Knowledge in the workplace or in other settings can be severely limited by a lack of early exposure to financial education and by a lack of awareness of the benefits of continuing financial education. It is therefore important to provide early opportunities for establishing the foundations of financial literacy. In addition to preparing young people for their adult life, financial education in schools can also address the immediate financial issues facing young people. Many children are consumers of financial services from a young age. It is not uncommon for them to have accounts with access to online payment facilities or to use mobile phones (with various payment options) even before they become teenagers, and it is clear that financial literacy skills would be of benefit to them when using such products. Before leaving school, they may also face decisions about such issues as car insurance, savings products and overdrafts (PISA, 2012).

The essence of financial education is understanding young people's relationship between money and work, understanding the value of money, shaping the rationality of spending money, as well as learning the background of capital. With the child's age, the sums spent on them grow, but the child's respect for the money does not increase neither automatically nor in proportion to the increase in the amounts spent. That is why it is so important to teach the youngest about finances. Financial education should cover all life stages and start in the pre-school age with the need to adapt the curricula to the level of the trainee. Another kind of knowledge is needed by a preschooler and another by a retired person. Therefore, knowledge in the field of financial literacy should be adapted to the age and the needs of a person and their household. For the purposes of the article, it is proposed to list the needs and forms of teaching depending on the life cycle (see Table 1.4).

Table 1.4: Cycle of life and needs of financial literacy and financial education.

No	Cycle of life	Questions/needs for financial knowledge	Financial education
1.	Early Childhood (Age 3–5)	What is money? What is the value of money? How much can you buy with coins and how much with paper money?	Picture of money – what does it look like, what is it for?
2.	Middle Childhood (Age 6–8)	What is a store, a bank for? Where does the money come from – "from the wall (means ATM, Bancomate)?" Why and for what we have to pay? How much do the individual goods cost, how much does the everyday shopping cost? How should money be spent (e.g. not all at once)?	Finance in the elementary arithmetic (1euro + 1euro = 2 euro) Observation of family
3.	Late Childhood (Age 9–11)	How to buy in a store? How much do various things cost? What to do in order to have more money? "Does money give happiness or not?" Can financial management be learned?	Experience (buy in shops) Play a game (*Cash flow, Monopoly, Post office*)

(continued)

Table 1.4 (continued)

No	Cycle of life	Questions/needs for financial knowledge	Financial education
4.	Adolescence (Age 12–20)	How to spend money? How to save money? What is a priority in consumption? When and how to open an account on the internet? Go to college? Which college? How to pay? Who can have a prepaid or a debit card?	Theory at school with practice Observation of the college Experience Short courses InternetBooks
5.	Early Adulthood (Age 20–35)	Buy or rent a house/flat? How to find a well-paid job? Cook for oneself or eat out? How quickly to pay off debt? Buy life insurance? Of what kind and for how much? Contribute to a retirement plan? How much?	Experience Short courses Internet Books
6.	Midlife (Age 35–50)	Choose a deductible on car insurance, on homeowners insurance? How to save for various needs? How to invest?	Experience Short courses InternetBooks
7.	Mature Adulthood (Age 50–80)	Vacation or staycation? Use new solutions in banking and finance (for example mobile payment, internet banking, cashless payment, etc.)? Retire or work a few more years? Buya annual health insurance?	Experience Short courses Internet Books Intergenerational transfer of knowledge
8.	Late Adulthood (Age 80+)	How to make a testament? Should I transfer my property before death? Have to transfer your business to the family?	Intergenerational transfer of knowledge to grandchildren

Source: Author's own work.

The Nobel Prize winner Stigler (1983) pointed to three reasons of the low level of economic literacy in the world. First, achieving high level of knowledge in any discipline is difficult, as it requires practice, intelligence, and educational support. Second, according to the Nobel Prize winner, the economy is deceptively simple, because the economic public discourse is usually conducted in a very accessible way, bypassing the entire methodical (including the mathematical) apparatus that underlies the economic regulations. This can give the recipients a false impression of understanding the complicated economic mechanisms. Third, sometimes people engage in wishful thinking and prefer simple and direct solutions of their problems, which makes them susceptible to propaganda and manipulation in the area of knowledge about how the economy works – especially the economic policy (Górski, 2016).

2 An overview of financial awareness and financial education measurement

Aleksandra Grzesiuk

2.1 Review of research methods used in financial awareness surveys. International perspective

Despite the importance of financial literacy, the academic literature has given limited attention to how financial literacy is measured. The principal objective of this chapter is to determine whether the studies conducted internationally provide a measurement tool for measuring financial literacy and awareness. And if not a tool – whether they give at least some recommendations for researching the phenomenon in an international perspective. However, there are no commonly accepted standard constructs providing the consistency needed in the comparative studies and/or meta-analysis in an international perspective.

According to Pedhazur and Schmelkin (1991), the approach to construct validation in terms of a logical analysis involves four main factors: 1. definition and construct, 2. item content, 3. method of measurement and 4. scoring procedure. The first and arguably most important aspect is defining the construct to allow for operationalization that is complete and mutually exclusive from other constructs. The second element is determining the content of the instrument which often involves using items from each relevant domain as indicators of the given construct. Measurement procedures include structural concerns such as how the data were collected (interview, rating scales); the number, wording, and order of items included in the instrument; and the conditions of administration. Instrument scoring is an important means of rating, communicating, and providing consistency in testing and interpreting results obtained by means of an instrument.

Huston (2010) in his broad literature review identified and examined seventy-one individual studies on financial literacy, of which the majority (52) was conducted on the US sample. The analysed studies were published between 1996 and 2008. In his analyses Huston used the four criteria indicated by Pedhazur and Schmelkin (1991).

As a result, distinct content areas used to varying degrees were identified:

1. Money basics (including time value of money, purchasing power, personal financial accounting concepts)
2. Intertemporal transfers of resources between time periods, including both borrowing (i.e. bringing future resources into the present through the use of credit cards, consumer loans, or mortgages)
3. Investing (i.e. saving present resources for future use through the use of saving accounts, stocks, bonds, or mutual funds)

https://doi.org/10.1515/9783110636956-002

4. Protecting resources (either through insurance products or other risk management techniques)

In terms of the data collection, 38% of the identified studies used interview techniques; the remainder relied on self-administered surveys. The overwhelming majority of the interview data (95%) was obtained via telephone surveys. Much of the self-reported data were collected through the internet (38%), but the majority was obtained either in person or by mail. According to the survey review, CAPI telephone interviews are very widespread in the USA. 73% of the studies reviewed by Huston was conducted in the US, which account for such a significant share of the CAPI method.

As will be presented in Section 2.2, the CAPI telephone interview has limited application in the study of young consumers, the better solution seems to be a direct interview. Also, the research topic should be included in the selection of the research method. In addition, over the last decade the use of the internet as a platform for research has clearly increased. The extensive evolution of the internet and its use in various aspects of social life have also revolutionized the methods of conducting scientific research. The internet has become one of the main areas of communication with respondents. Additionally, it should be noted that the popularity of using the internet in the research is also due to the IT support it provides at the stage of developing research results. However, researchers are concerned with the extent to which it is possible to diagnose financial awareness via the internet because of the diverse use of the internet by the different social and age groups, differentiated access to the internet in various geographical areas, etc.

As presented in Table 2.1, most of the research focusing on financial awareness and financial literacy was based on the questionnaire surveys. However,the main weakness of the conducted surveys is the incomparability of their results. This makes impossible more sophisticated analyses. As Cichowicz and Nowak (2017a, 2017b) point out, these studies focus on various aspects of financial literacy and knowledge and, consequently, do not allow researchers to evaluate them fully and completely. In Poland, undoubtedly, the most comprehensive study is the project of the National Bank of Poland. The aim of the project was to explore a broad spectrum of respondents: primarily the youth from junior high and secondary schools, as well as their parents and teachers of entrepreneurship (Diagnoza wiedzy, 2014).

The review of literature on financial awareness and financial education shows that the internationally implemented methods take the form of financial knowledge tests and self-assessment measures. Test-based self-assessment methods usually include objective questions, and only quite rarely – both objective and subjective questions. The objective question is a problem which has one correct solution while a subjective question belongs to one of several groups of questions concerning experience in financial markets or self-assessment of one's knowledge (Potocki, 2016). The objective questions used by researchers include both multiple-choice closed-ended questions (with the number of possible answer choices between three and six),

Table 2.1: Characteristics of selected international studies on financial literacy and education and applied research methods.

Year	Name of research	Study area / Purpose of the study	Research method
2005	OECD	Questions concerning the role of financial education.	The questionnaire administered to the members of OECD (30 countries altogether), filled in by the institutions involved in broadly defined financial education (central banks, ministries of education and finance, consumer protection offices).
November 2010	ING Group	Assessment of knowledge of financial issues. The study consisted of two parts: 1. assessment of consumers' knowledge of finance (financial quiz); 2. assessment of consumers' behavior and attitudes towards financial issues.	The study included 5,000 subjects from 10 countries (Poland, the US, the Netherlands, Romania, Belgium, Spain, Mexico, India, Korea and Japan).
2011	Citi Foundation, CSR Europe, Money Advice Service	Assessment of the level of financial knowledge / plans regarding protection of financial situation.	The study included two social groups from France, Poland, Spain and the UK aged 16–30 (1,200 subjects, a survey on Facebook) and 55–64 (review of literature and research reports).
2011–2012	OECD	Questions concerning interest rates, inflation, risk and its diversification	The study conducted in 14 countries.
2012–2017	ING Barometer ING Group	The scope of research: savings, long-term savings; saving targets of Poles, saving for retirement; forms of Poles' indebtedness; extent and purpose of the use of mobile banking; sources of financial knowledge; assessment of liability for financial decisions; role of social media in making financial decisions	For example, research in 2016 was conducted in 13 countries: Poland, Austria, Belgium, Czech Republic, France, Spain, the Netherlands, Luxembourg, Germany, Romania, Turkey, United Kingdom, Italy. Computer-Assisted Web Interview (CAWI) technique; 12,646 respondents; 1,000 from Poland.

(continued)

Table 2.1 (continued)

Year	Name of research	Study area / Purpose of the study	Research method
2016	International Survey of Adult Financial Literacy Competencies OECD/INFE	Questions mainly concentrated on: financial knowledge, financial behavior and financial attitudes. Additionally, questions allowing the construction of financial inclusion indicators were asked.	30 countries and economies (17 OECD countries), in total 51,650 adults aged 18 to 79, 1,000 from Poland. International survey using the same core questions translated into 30 languages. The technique depends on the study country (mainly: face-to-face in Poland, web panel, telephone or mixed).

Source: Cichowicz, Nowak (2017a).

and true/false closed-ended questions, but also open-ended questions (with the instruction: “please enter the answer”). To reduce random selection by respondents, especially those prone to low levels of financial knowledge, one should avoid closed-ended true questions (50% of random success) or use less than three possible answers in closed-ended multiple-choice questions (33% of random success).

The purpose of the review presented in this chapter is not to discuss the results of the described studies but only the methods and tools used in them. An important aspect of the analysis is the definition of the group of respondents, also in terms of demographic characteristics, including age. It is important to underline that the review of the research presented in Tables 2.1 and 2.2 refers to the projects examining adults. The only project mentioned in Table 2.2 that covered only children and youth was the diagnosis performed by the National Bank of Poland. As presented in Tables 2.1 and 2.2 the cross-section of the respondents’ age was different and sometimes included respondents aged 15. As will be presented in the description of the methodology of primary research (see Chapter 5.1), reported as part of the research project “Education and financial awareness in Germany and Poland. Transfer of knowledge, analysis and recommendations”, these studies only cover the population of young people (14–16 years old). As the age may turn out to be a strong variable differentiating the level of knowledge and financial awareness of the respondents, it is not possible to directly compare the results of the surveys included in Tables 5.1 and 5.2 with the results presented in Chapter 5.

Returning to the considerations on the research method used in the studies of financial literacy and problems related to the multiplicity and diversity of the applied research methods and approaches, we must point out that attempts have been made to standardize the examined aspects. These attempts include a set of three groups of questions developed in 2004 by Lusardi and Mitchell, referred to as the Big Three. These questions cover three scopes of information about the interest rates, the consumer price index (inflation) and risk diversification. This set of questions was

Table 2.2: Characteristics of selected Polish studies on financial literacy and education and applied research methods.

Year of research / report publication	Name of research / Research client	Study area / Purpose of the study	Research method
2008–2016	Attitudes of Poles towards saving / finances, Citi Handlowy Kronenberg Foundation	The main purpose was to identify the attitudes of Poles towards finance – home budget managing, savings and investing. The assessment included: saving (is it worth it?, target, amount, method, time horizon); saving for retirement; planning and expenditure control; knowledge of finance and sources of knowledge	The survey (interview) on a representative sample of Poles aged 15–75, sample N = 1028 (layered by gender, age, size of the city and voivodeship). CAPI research method.
September 2009	Financial knowledge of Poles, Citi Handlowy Kronenberg Foundation	Examining the level of Poles' financial knowledge and diagnosis of areas in which financial education is most needed for Poles (areas for the active educational campaigns). Elements of the study: 1. attitudes towards finance and factors influencing their formation; 2. inclusion in the financial system (financial services, investment, insurance, pensions, taxes); 3. condition of financial knowledge – visions vs. real knowledge; 4. general values and attitudes of Poles and their relationship to financial knowledge.	Representative sample of 1,502 adult Poles. Research method: direct questionnaire CAPI interviews.
2011	Financial Education: Experiences and Perspectives, Iwanicz-Drozdowska et al.	Assessment of financial literacy of selected professional groups (doctors and IT specialists working in Warsaw) and social groups (students and high school students in Warsaw).	The survey was carried out using paper and online questionnaires administered to students of Warsaw universities of various profiles, including economic and financial – 837 questionnaires, the medical community (doctors and nurses) – 270 questionnaires, and IT specialists – 326 surveys.

(continued)

Table 2.2 (continued)

Year of research / report publication	Name of research / Research client	Study area / Purpose of the study	Research method
2014	National Bank of Poland Research project: Diagnosis of knowledge and economic awareness of children and youth in Poland	Diagnosis of the state of knowledge of children and adolescents in Poland on economics, finance and economy and identification of real educational needs in this area.	1. Nationwide survey of students graduating from primary school, middle school and high schools (CAPI, N = 1800) and their parents (CAPI, N = 600) 2. Nationwide research of teachers of entrepreneurship and knowledge about society (at junior high school) (CAPI, N = 200)
2014	Economic Knowledge of Poles, Freedom Institute and Raiffeisen Polbank	Assessment of knowledge of basic economic terms (e.g. tax thresholds), as well as more advanced ones (e.g. different ways of saving). The study focuses on the practical application of financial knowledge in everyday life.	Research using CAPI in home technique on a 1000-person quota random sample representative for the general Polish population aged 15–75 selected from the Central Statistical Office of Poland address sampling.
August 2015	School Starter Kit versus Spending Planning, Citi Handlowy Kronenberg Foundation	Assessment of parents' approaches to planning of expenses associated with starting a school year.	The survey was carried out on a target sample (N = 468) of households with a child or children of school age (6–19). Research method: direct CAPI interviews.

Source: Author's own study and Cichowicz, Nowak (2017a).

expanded in 2012 by adding aspects related to the mortgage loan interest and the pricing of bonds, which eventually resulted in the so-called Big Five (Hastings, Madrian, Skimmyhorn, 2013). Unfortunately, neither the Big Three nor the Big Five has been adopted for common use. It is also worth stressing that in part of the studies one may see a desire to construct a synthetic gauge or set of measures of financial literacy. At the same time, the review of the literature doesn't reveal any solution adopted on a larger scale. Also, the widely used survey method is not standardized. It covers either the society as a whole or some selected groups, which are not always identified according to strictly defined criteria, e.g. the group of „youth". Although this group of society is often subject to research, their results are incomparable.

Hastings et al. (2013) presented the answers given by the respondents to the Big Three and Big Five sets of questions in the 2009 US National Financial Capability Study by the groups of different age, gender, ethnicity, education, and social status. Interestingly, the number of respondents correctly answering the Big Three and the Big Five financial literacy questions increases with age. In the age group 18–24, 22% of respondents correctly answers the Big Three questions and 5% – the Big Five questions. In the age group 25–34 the share of correct answers increases to 32% for Big Three and 11% for Big Five. The increase takes place in each subsequent age group, reaching the level of 48% and 20% respectively in the age group 55–64.

These results confirm the hypothesis that the financial knowledge grows with the acquisition of life experience and the social independence typical for adults. Young people participate to a rather limited degree in the financial life, hence their knowledge, unsupported neither by their own experience nor by the necessity to conduct financial analysis in the face of making specific, independent financial decisions, is simply very limited. However, the results indicate a significant increase in financial knowledge with age. It means that life experience contributes significantly to the development of individuals' knowledge and financial awareness. These considerations should be emphasized in the construction of methods for measuring financial knowledge among young people. In order to examine the financial knowledge of young people, it is necessary to provide research tools, taking into account the potential level of youth participation in financial life.

As mentioned earlier, the age of respondents is an important element characterizing the process of conducting the research. If the research is aimed at diagnosing the financial literacy of young people, interesting conclusions arise from the PISA study carried out in 2015 – the OECD Programme for International Student Assessment (OECD, 2018). That survey focused on science, with the respondents' skills of reading, mathematics and collaborative problem solving as minor areas of assessment. PISA 2015 also included an assessment of young people's financial literacy, which was optional for countries and economies. Approximately 540,000 students completed the questionnairere in 2015, representing about 29 million 15-year-olds in the schools of the 72 participating countries and economies. It should be emphasized that the focus of this report corresponds with the results of the research project "Education and financial awareness in Germany and in Poland. Transfer of knowledge, analysis and recommendations", whose target group of respondents are young Poles and Germans aged between 14 and 16. In practice, this meant the baby boorn of 2001–2002, and such was the age structure of the research sample. The age of the respondents in PISA and primary research is similar, creating a potential space for direct comparative analysis.

PISA 2012 was the first large-scale international study to assess the financial literacy of young people. Its 2015 edition developed the scope of the international research. However, the optional financial literacy questionnaire was administered to repondents in 15 counties (not in 72 countries as the remaining parts of the research).

Poland was included in this group, but Germany did not participate in this part of PISA study. Therefore, we can quote general results of research, taking into account the results of the young Poles, but cannot compare it with the results of young Germans, which would be important from the point of view of the comparative research conducted in this book. As with the core PISA domains of reading, mathematics and science, the main focus of the financial literacy assessment in PISA is on measuring the proficiency of 15-year-old students in demonstrating and applying knowledge and skills. Computer-based tests were used as research method in PISA project, which took in total two hours for each student. The 2015 financial literacy assessment was developed as a one-hour exercise, comprising 43 items divided into two clusters. The content areas in PISA project include (OECD, 2016b):

1. Money and transactions. Tasks in this content area can ask students to show that they are:
   a. Aware of the different forms and purposes of money. Students can:
      - recognize bank notes and coins;
      - understand that money can be exchanged for goods and services;
      - identify different ways to pay for items purchased in person or at a distance (from a catalogue or on line, for example);
      - recognize that there are various ways of receiving money from other people and transferring money between people or organizations, such as cash, card payments in person or on line, or electronic transfers on line or via sms;
      - understand that money can be borrowed or lent, and the purpose of interest (taking into account that the payment and receipt of interest is forbidden in some religions).
   b. Confident and capable of handling and monitoring transactions. Students can:
      - use cash, cards and other payment methods to purchase items;
      - use cash machines to withdraw cash or to get an account balance;
      - calculate the correct change;
      - work out which of two consumer items of different sizes would give better value for money, taking into account the individual's specific needs and circumstances;
      - check transactions listed on a bank statement and note any irregularities.
2. Planning and managing finances. Tasks in this content area can ask students to show that they know about and can:
   a. Monitor and control income and expenses. Students can:
      - identify various types of income (e.g. allowances, salary, commission, benefits) and ways of discussing income (such as hourly wage and gross or net annual income);

   - Draw up a budget to plan regular spending and saving and live within it.
b. Use income and other available resources in the short and long term to enhance financial well-being. Students can:
   - understand how to manipulate various elements of a budget, such as identifying priorities if income does not meet planned expenses, or finding ways to increase savings, such as reducing expenses or increasing income;
   - assess the impact of different spending plans and be able to set spending priorities in the short and long term;
   - plan ahead to pay future expenses: for example, working out how much money needs to be saved each month to make a particular purchase or pay a bill;
   - understand the purposes of accessing credit and the ways in which expenditure can be smoothed over time through borrowing or saving;
   - understand the idea of building wealth, the impact of compound interest on savings, and the pros and cons of investment products;
   - understand the benefits of saving for long-term goals or anticipated changes in circumstance, such as living independently;
   - understand how government taxes and benefits affect personal and household finances.
3. Risk and reward. Tasks in this content area can ask students to show that they:
   a. Recognize that certain financial products, including insurance, and processes, such as saving, can be used to manage and offset various risks, depending on different needs and circumstances. Students know how to assess whether certain insurance policies may be of benefit.
   b. Understand the benefits of contingency planning, diversification and the dangers of default on payment of bills and credit agreements. Students can apply this knowledge to decisions about:
      - limiting the risk to personal capital;
      - various types of investment and savings vehicles, including formal financial products and insurance products, where relevant;
      - various forms of credit, including informal and formal credit, unsecured and secured, rotating and fixed term, and those with fixed or variable interest rates.
   c. Know about and can manage risks and rewards associated with life events, the economy and other external factors, such as the potential impact of:
      - theft or loss of personal items, job loss, birth or adoption of a child, deteriorating health or mobility;.
      - fluctuations in interest rates and exchange rates;
      - other market changes.

d. Know about the risks and rewards associated with substitutes for financial products, particularly:
   - saving in cash, or buying property, livestock or gold as a store of wealth;.
   - taking credit or borrowing money from informal lenders.

e. Know that there may be unidentified risks and rewards associated with new financial products (examples may include innovative digital finance or “crowd funding”, but, by definition, such a list will change over time).

4. Financial landscape. Tasks in this content area can ask students to show that they:
   a. Are aware of the role of regulation and consumer protection.
   b. Know about rights and responsibilities. Students can:
      - understand that buyers and sellers have rights, such as being able to apply for redress;
      - understand that buyers and sellers have responsibilities, such as giving accurate information when applying for financial products (consumers and investors), disclosing all material facts (providers); and being aware of the implications of one of the parties not doing so (consumers and investors);
      - recognize the importance of the legal documentation provided when purchasing financial products or services and the importance of understanding the content.
   c. Know and understand the financial environment. Students:
      - can identify which providers are trustworthy, and which products and services are protected through regulation or consumer-protection laws;
      - can identify whom to ask for advice when choosing financial products, and where to go for help or guidance in relation to financial matters;
      - are aware of existing financial crimes, such as identity theft and scams, knowledge of how to take appropriate precautions to protect personal data and avoid other scams, and knowledge of their rights and responsibilities in the event that they are a victim;
      - are aware of the potential for new forms of financial crime and awareness of the risks.
   d. Know and understand the impact of their own financial decisions on themselves and others. Students:
      - understand that individuals have choices in spending and saving, and each action can have consequences for the individual and for society;
      - recognize how personal financial habits, actions and decisions have an impact at an individual, community, national and international level.
   e. Understand the influence of economic and external factors. Students:
      - are aware of the economic climate and understand the impact of policy changes, such as reforms related to the funding of post-school training or compulsory savings for retirement;

– understand how the ability to build wealth or access credit depends on economic factors, such as interest rates, inflation and credit scores;
– understand that a range of external factors, such as advertising and peer pressure, can affect individuals' financial choices and outcomes.

The framework covers some of the processes through which students exhibit their financial literary, such as identify financial information, analyze information in a financial context, evaluate financial issues, and apply financial knowledge and understanding. Items are set in the education and work, home and family, individual and societal contexts. When it comes to researching economic knowledge of children and youth in Poland, comprehensive research was provided by the research project "Diagnosis of knowledge and economic awareness of children and youth in Poland" conducted by the National Bank of Poland in 2014. The aim of the project was to diagnose the state of knowledge of children and youth in Poland on economics, finance and the economy, and to identify real educational needs in this area. As part of the project, five different problem modules were implemented, including a nationwide survey of students graduating from primary school, middle school and high school (CAPI, N = 1800). As for the research method used in this project, just like in other reported projects, a questionnaire survey consisting of four parts was used:
1. Economic knowledge test – true/false (15 questions – for primary schools; 20 questions for middle and high schools)
2. Economic skills test – closed questions (single choice) and computational questions (13 questions)
3. Knowledge of the institution. Assignment of the institution's names to their descriptions or functions (7 questions)
4. Knowledge of economic concepts. Declaration of knowledge of concepts (19 questions)

As one of the results of the NBP' project a new indicator was implemented: Economic Knowledge Index. This indicator covers the results of the first two categories: economic knowledge and economic skills. The NBP survey was of a broader nature, not only from the point of view of the research sample. It also included a wider spectrum of problems in which financial literacy was just one of the elements. References to the results of this study, which are included in Chapter 5.2, result from the its universality. This is the only such extensive study on a sample of children and youth in Poland carried out so far. Summarizing the review of the research methods used to measure knowledge and financial awareness, we should emphasize that there is no one strategy of measurement of financial knowledge and there are no specific instruments dedicated to young respondents. Financial knowledge test and self-assessed measures are the most popular methods (Hastings, Madrian, Skimmyhorn, 2013).

The substantive scope of the methods known in the literature (used by researchers in various projects) can be divided according to the three areas of the analyzed competencies: 1. the basis of mathematical and statistical knowledge, 2. knowledge about risk, and 3. financial knowledge (Potocki, 2016). But as mentioned earlier, the reported research projects were addressed to adults and their possible implementation in the research of young respondents requires the adaptation of the tool (the questionnaire, the content of questions) to the characteristics of this age group.

2.2 Surveying young people. The impact of methodology of data collection on response quality

As presented in Chapter 2.1, most of the reported studies on financial literacy implemented the questionnaire method. Although the structure of questionnaires and their content are different, these studies combine expressing opinions with presenting knowledge by the respondents in the auditory form. The main focus of this book is the awareness and financial knowledge of the young Poles and Germans. In order to explore this problem, it is necessary to use an optimal research tool. Such tool should be adapted to the characteristics of the respondents, the research problem, and ensure the feasibility of the project. Below we will discuss the specific characteristics of the surveyed group – the young respondents, then we will review the research tools which will be used in this group.

In view of the availability of multiple measurement methods of financial knowledge, the researchers have to check their cultural adaptability to the conditions of their country. Only then they can create their own measurement methods. In the study of the financial knowledge of youth in Poland and Germany, reported in this book, the comparability of results was of primary importance, it was then necessary to choose a tool that would eliminate any cultural differences.

2.2.1 Generation Z

Young people have distinctive features directly related to their age, that distinguish them from other social groups. Compared to adults, they have less experience (also as buyers) and lower level of market knowledge. Additionally, market behavior of the young people is limited by legal standards. On the other hand, they constitute an important and attractive group, characterized by greater openness to new market opportunities, significant purchasing power as well as decision-making power within their families and peer groups (Frąckiewicz, Grzesiuk, 2016). In the literature there are different approaches to define who the young people are. As the upper limit is set at 15, 19, 24 years, but also 35 years (Olejniczuk-Merta, 2009; Żelazna and Kowalczuk, 2003; Wolny, 2005; Gutkowska and Ozimek, 2008). This significant difference results from different research goals and related additional criteria being analyzed (e.g. financial independence, education stage, legal capacity). Considering both different approaches to define the concept of a young person and the fuzzy chronological boundaries between generations, one can point to the specificity of the Generation Z in relation to previous groups, as presented by Levickaite (2010). We will perceive "generations" as groups sharing common life experiences and common values. Since the main focus of this book are the representatives of the generation Z (however in a much narrowed age group), special features of this group are presented in Table 2.3.

Table 2.3: Profile of the generations.

Generation	Time period	Social environment	Technological environment	Previous experiences
X	from early 1960s till 1974	They live at home, without a family or children, prolonging their career more than the previous generations	They see the beginnings of IT development, video games and the internet as a means of achieving social and commercial goals	In Eastern Europe: Shaped by political and cultural events caused by the fall of the Berlin Wall, the collapse of the USSR and Yugoslavia
Y	1975–1989	Shaped by events, leaders, careers and trends of their times	They use technology	Perceived as those who reject the culture of the 1960s, they are more involved in technology than in everyday events
Z	middle 1990s till 2010	Always online, with nicknames	They do not know the time "from before the online era"; online world is their natural environment	Social network – a world without boundaries of time and space

Source: Levickaite (2010), p. 172.

As the age limits for particular generations are set differently by different authors, the classification presented in Table 2.3 should be considered exemplary. A review of the literature leads to the conclusion that research on the generation Z is not as widespread as the studies of X or Y generation. Two reports are worth citing here – a JWT report for the US and British market "Gen Z: Digital in My DNA" and a report by Sparks & Honey "Meet Generation Z: Forget Everything You Learned About Millennials", a comprehensive compilation of research on the generation Z. The study of particular generations is grounded in the differences in value orientation. The characteristics of the generation Z primarily emphasize that people from this group are "immersed" in new technologies, that they remain constantly on-line (Kall, 2015; Levickaite, 2010; Turner, 2015). In addition to the widespread use of new media, this group is also characterized by the openness to and ease of use of various mobile devices and their functions. It is worth emphasizing that the generation Z builds their social relations on the basis of the use of new technologies, social media, etc. This is why this generation is referred to as "net-generation", "generation I" or "generation next". This particular way of using modern technologies may influence the research methods used in the research of this group.

Generation Z has no experience with the pre-internet reality, and smartphones are their inherent attribute. What is more, a smartphone treated as a personal thing replaces many other devices used by older generations. This generation can be recognized as the first that functions in a mobile environment (a digital generation). It should also be emphasized that none of the previous generations had functioned in an era of so rapid technological changes and with technology so easily available to young people (Turner, 2015). The youth is always very heterogeneous and consists of numerous sub-groups. Today's 20 years olds and younger grew up in a digital age. It is difficult for them to understand that people of the former generations had lived without 7days/24hours access to the internet and without smartphones. In many aspects of social life, Z generation has similar problems to earlier generations. However, the environment in which they live and with whom they come into contact, in particular, access to information technology make their behavior incomprehensible for elderly generations. The youth of today are members of the generation that grow up using the internet and know the verbal and visual world of the internet fluently. It means that they handle short, up-to-date, real time information with pictures. This should be the leading method of communication with this target group. Representatives of the Z generation do not read long texts. Short attention span is typical of this generation, thus messages for them should be created by taking the "less is more" approach into consideration. Simplification and getting to the point can be productive.

The relationship with the internet translates not only into the potential way of contact with the Generation Z during research, but also indicates a very significant sensitiveness of the Generation Z to information acquired consciously and subconsciously online. In other words, you can stimulate the behavior of young people in a fairly simple and quick way through online communication. The results can be clearly seen in their quick response to online information, The long term online influence on the behavior the members of Generation Z has not yet been determined. Therefore, it can be concluded, with reference to the subject matter of financial literacy, that online communication should play a very important role in shaping young people's attitudes and financial behavior. We mean here various forms of influence through blogs, opinion leaders, social networks, etc.

It is important to emphasize that the Generation Z is the first global generation in the world (Homo Globalis). They grow up in the same culture, they like mostly the same food, fashion and places. Globalization appears in their language as well because they use words and expressions that the members of other generations do not use and often do not understand (Törőcsik, Szűcs, Kehl, 2014). For the same reason the issues of building financial awareness should be partially considered in the international perspective. By using online communication, you can transfer universal messages, shape the universal attitudes and financial behaviors of this globalized generation. An example can be the promotion of non-cash transactions. In conclusion, two main characteristics of the Generation Z seem to be significant:

1. They are one of the hardest groups for survey researchers to reach, a generation that develops subcultures, is introverted and not allowing someone from outside the group to be informed about themselves.
2. Contact via the internet is more typical of them than the personal one. However, the Generation Z highly values privacy. Paradoxically, they "reveal" information about themselves through social media. However, they do it on their own initiative. If someone "externally" asks for information – representatives of this generation treat it as interference in their own privacy and refuse such information.
3. Young people spend more and more of their free time using the social media, which means either immobility or time consumption in a mobile way. Therefore, it is imperative to use these communication channels to promote knowledge and financial awareness.
4. This is an online generation, "always online", the only generation in history which does not know the reality from before "online". This is not a generation that had to learn to use a computer or the internet. This generation was "born" with these skills as its basic. This social group treats online information as the most reliable, more valuable than knowledge gained through other ways. It seems crucial that the online channel is used as one of the leading in financial education.

The features indicated above can significantly affect the social behavior of the studied generation. This also determines the possibilities of conducting research, getting to know opinions, attitudes, knowledge and skills of this social group.

2.2.2 Approaches to Generation Z surveys

There are various methods allowing contact with different groups of respondents, depending on their demographic or psychosocial characteristics. However, when it comes to the Generation Z, there is no one best way to survey this group. Each of the approaches to research the Generation Z comes with its own set of strengths and limitations, and their usefulness will be highly dependent on the particular circumstances of each study (The Challenge of Reaching…, 2012). Taking into account the previously mentioned characteristics of the Generation Z and their clear embedding in the online reality, it can be concluded that conducting research via the internet could be the best way to contact these respondents. If we assume that the internet is a proper way to contact young people, the next question that should be asked concerns the willingness of young people to participate in the study via the internet. In this context, researchers will face a number of problems. Young people perceive their online space as private and protect it from unauthorized access; they reserve access to this space only for those who they invite themselves. This makes conducting online surveys among young people very difficult, especially when the study is intended to verify their knowledge. And this is the case when researching financial literacy. Therefore simple thought patterns do not always yield the best results. Below some conclusions are presented concerning the ways of contact with young people. Törőcsik et al. (2014) suggested some rules that should be followed if anyone would like to communicate with young people. They emphasize that experiences and pleasure are especially important for young people; egocentric behavior and the rejection of problems and rebels are typical of them. And because of the excessive supply of the media, they are very selective, they criticize, click and surf on the internet.

Regardless of the above mentioned comments, we present in Table 2.4 a review of the available primary research approaches.

Table 2.4: Planning primary data collection.

Research Approaches	Contact Methods	Sampling Plan	Research Instruments
Observation Survey Experiment	Mail Telephone Personal Online	Sampling unit Sampling size Sampling procedure	Questionnaire Mechanical instruments

Source: Kotler and Armstrong (2013).

Observational research consists in gathering information by observing people along with their activities and situations they are involved in. In case of research on financial awareness we could observe respondents while they are doing their daily shopping. Then we can conclude on the customers' decisions making, which can be an element of research on the household budget. Observational research allows to obtain information that people are unwilling or unable to provide. In some cases, observation may be the only way to obtain the needed information.

Survey research (questionnaire research/PAPI), the most widely used method for primary data collection, is an approach to gathering direct information. It covers people's knowledge, attitudes, preferences, or buying behavior. The difference between observation and survey is that in the survey we receive declarations from respondents that may differ from their real behaviors while during observation we diagnose the real behaviors. If the research problem concerns knowledge, as is the case in research on financial knowledge of young Poles and Germans, observation is a better method. Using observation, we observe behaviors, while using questionnaires we identify knowledge.

As presented in Table 2.5 by Kotler and Armstrong (2013), the online samples are regarded as "excellent". This statement seems to be debatable. Online research has been

Table 2.5: Strengths and weaknesses of contact methods.

	Mail	**Telephone**	**Personal**	**Online**
Flexibility	Poor	Good	Excellent	Good
Quality of data that can be collected	Good	Fair	Excellent	Good
Control of interview effects	Excellent	Fair	Poor	Fair
Control of sample	Fair	Excellent	Good	Excellent*
Speed of data collection	Poor	Excellent	Good	Excellent
Response rate	Fair	Good	Good	Good
Cost	Good	Fair	Poor	Excellent

* Explanation in the text
Source: Kotler and Armstrong (2013).

widely used in the last five years, including the use of social media, due to which the latter could have lost their potential of perfect sample selection. The internet ensures anonymity, and as a result, the researcher has limited control over the selection of respondents. Therefore nowadays attitudes towards online samples should be reoriented. Online samples have the following disadvantages: they are mainly self-recruited, i.e. people register themselves as panelists (selection bias). Usually some strata are overrepresented because of easier access to the internet, better education, fluency in IT, or better financial background (representation bias). The interview situation is not controlled, i.e. we do not know who has really filled out the online questionnaire (validation bias). Considering all the doubts concerning the ways of reaching young respondents, in the presented study on financial awareness of young Poles and Germans the authors decided to use the traditional auditorium survey method/classrooms survey (PAPI). In order to increase the accuracy of the selection of the respondents, eliminate errors and ensure increased motivation of young people to complete the surveys, it was decided to distribute surveys via the secondary schools in Poland and Germany (see details of the methodology – Chapter 5.1). The classroom survey, which was used in the reported study of financial awareness of young Poles and Germans, had several advantages, including easy access to a large group of respondents, usually difficult to reach, and the opportunity to give them explanations in case of understanding questions. Furthermore, the whole interview situation in the classroom was under control because the researchers were there and acted relatively fast so that the questionnaires could be collected immediately after completing. In addition, participating in the survey during school lessons increases the respondents' willingness to complete the questionnaire.

3 Financial literacy and financial education in Poland. An overview

3.1 The need for financial education in Poland. Results of the secondary survey

Beata Świecka

The Poles, like other nationalities, need financial education. On the one hand, this is due to dissatisfaction with their level of financial knowledge, confirmed by the research results presented below (see Figure 3.1). On the other hand, this is caused by the growing number of over-indebted people, confirmed by the data presented next (see Figure 3.2, 3.3 and Table 3.1). According to the report by TNS Polska prepared for the KRUK Group, 64% of surveyed Polish nationals are not satisfied with the quality of the financial education they received in their youth. At the same time almost all of them (92%) responded "yes" to the question of whether early financial education is helpful in everyday life. More than a third of the respondents are convinced that financial education should start as early as in primary school. The most important thing is to explain financial matters to children with a simple language. A variety of games can be used, such as those available on the website of the Association for the Promotion of Financial Education. According to the data from the TNS Polska survey, the highest percentage of respondents (71%) think that the lack of financial knowledge in everyday life makes people fall into debts. Fewer (69%) claim that lack of education causes irrational spending, i.e. spending more than one earns, and 67% believe that because of lack of financial knowledge people enter into financial contracts they do not understand. Then, according to the respondents, poor knowledge about finance leads to: lack of savings (63%); accepting services / goods at unfavourable conditions (57%);). That is why it is so important to educate children from an early age. Especially, that the most important attitudes towards finance are formed before age of 7.

Good financial education means also learning that credits must be paid off and borrowed items and money – returned. The need for financial education is also clear from the data demonstrating how the Poles cope with debt. According to the Report InfoDług (2018), containing information about unreliable debtors, the average value of indebtedness in Poland per one unreliable debtor in the first quarter of 2018 was 5,815 EUR. The total amount of outstanding loan and non-credit liabilities at the end of the first quarter of 2018 was 15.65 billion EUR. In comparison to the end of December 2017 the delayed payment of the Poles (recorded in the Register of Debtors, a BIG InfoMonitor database, and the Biuro Informacji Kredytowej BIK – Credit Information Bureau) increased by 0.3 billion EUR. The non-credit liabilities rose during a quarter by

https://doi.org/10.1515/9783110636956-003

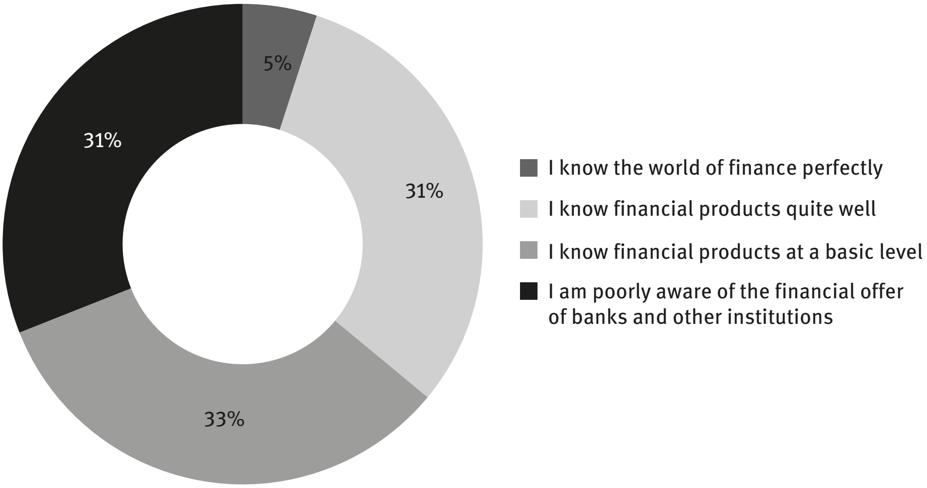

Figure 3.1: Knowledge about finance (data in %).
Source: TNS Polska.

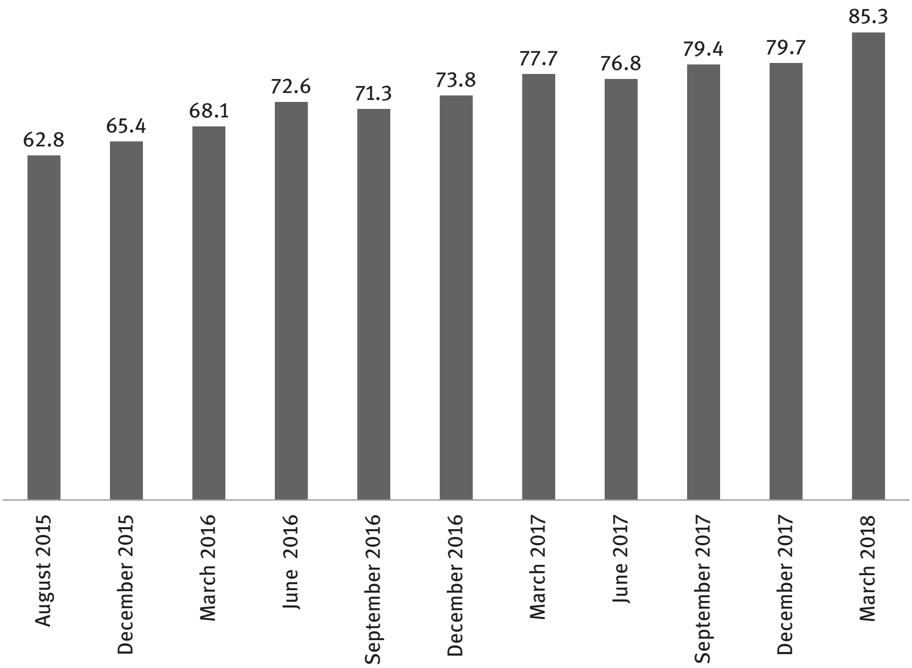

Figure 3.2: Index of Outstanding Payments of Poles*.
Source: IZP (2018).
* The Index of Outstanding Payments of Poles for the first time in 2018 included debtors with delays of 30 days, previously it was min. 60 days.

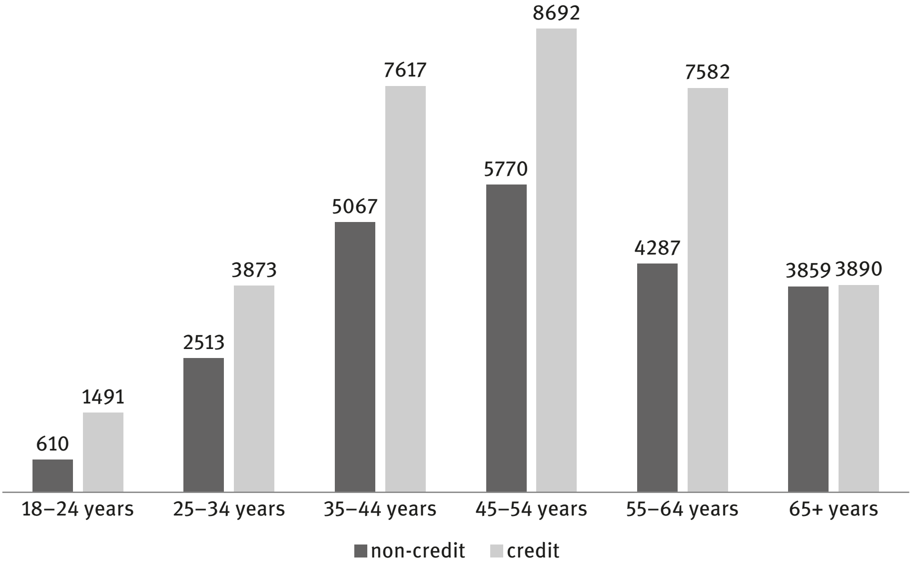

Figure 3.3: The average value of outstanding credit and non-credit liabilities in different age groups (in euros).
Source: InfoDług (2018).

Table 3.1: Outstanding liabilities in Poland (1st quarter of 2018).

Outstanding liabilities	Number of defaulting debtors	Total amount of outstanding liabilities of defaulting debtors*	The average value of outstanding liabilities per defaulting debtor*
Credit liabilities	2 051 300	36,35 mld PLN/ 8,65 mld euro	17 721 PLN/ 4 220 euro
Non credit liabilities	1 193 757	29,38 mlg PLN/ 7,08 mld euro	24 614 PLN/ 5 861 euro
Total	2 691 458	65,73 mld PLN/15,65 mld euro	24 423 PLN/ 5 815 euro

Source: IZP (2018).
*Exchange rate 1 PLN = 4,2 euro

0.23 billion EUR up to 8.65 billion EUR, and the 0.06 billion EUR arrears – up to 7.08 billion EUR. (see Table 3.1) (InfoDług, 2018).

According to the InfoDług annual report (edition 34, May 2018) concerning the defaulting debtors, 85 per 1000 adults in Poland are unable to cope with their loans and current bills. This is illustrated by the Index of Outstanding Payments of Poles, which increased since the end of 2017 by 5.6 percentage points – from 79.7 to 85.3 points (see Figure 3.2). The number of defaulting debtors in the non-credit registry of the BIG InfoMonitor in the first quarter of 2018 increased by 15,743 to 2,051,300, while the number of defaulting creditors registered in BIK rose by 242,417 to 1,193,757.

According to the Credit Information Bureau BIK data, the high school graduates, general and vocational school graduates, and the university students are currently repaying PLN 6.81 billion. For the most part these are the consumer loans the young took to fulfill their dreams. Unfortunately, they are paying off worse loans than their counterparts 10 years before. BIK report shows that the young generation of customers (people aged 18–24) are particularly inclined to borrow money. The Generation Z, or people born in the 1990s, grew up in prosperity and in the culture of consumption. They are accustomed to good quality products, and the price is secondary to them. Generation Z is said to be impatient and eager to have everything right now, immediately. Among the youth, the payment card is very popular, 70% of teenagers who use it, have a debt of more than PLN 200. In 2007, 40% of young people used the credit card. The young Poles are active consumers, although their main occupation is learning. According to the Center for Social Research and Opinion, the majority (76%) of the young people up to 24 years, are living with their parents' money. One in five (over 18%) of those aged 18–24 have a loan. The BIK data show that a group of 589.4 thousand young borrowers have 1 million active loans. Together they have to repay PLN 6.81 billion. Young people enjoy various forms of lending. The majority of them (almost 70%) are consumer loans, 15% credit cards, and 17% personal account limits. Housing loans represent the smallest share – only 1.4% (the young people mostly live with their parents). The current style of consumption of a young generation can be considered spontaneous. They like to fulfill their whims, and shopping is for them a way to spend time and make them happy. Such an attitude reveals their greater tendency to risky financial behavior compared both to their seniors (the older age groups) and their peers 10 years before. Young people can use easily available loans in banks and online payday loans. It is interesting that in some banks one can take a loan "for free" – it costs nothing. BIK data warn that more and more young people will have to enter into adult life with considerable loans (InfoDług, 2018).

Young people have unpaid loans, phone bills and fines. The debts of young Poles grow together with them (see Figure 3.3). The unpaid debt of the 18-year-olds is only 239 thousand euro, the debt of the 22-year-olds is 15,5 million euro, and the debt of the 25-year-olds amounts to over PLN 38 million euro. The record holder in non-payment is a 24-year-old from Wrocław, who has to pay 148,809 euro.

3.2 Financial literacy of young people in Poland

Olga Wyszkowska-Kaniewska

Nowadays managing personal finances has become more complex and requires more skills and knowledge than it was in previous generations. In recent decades, the importance of financial literacy has increased for dealing with the growing complexity of financial products and services as well as individual consumer needs resulting from

Table 3.2: The reasons for the increase in the importance of financial literacy.

Increased complexity of financial products and services	**Increased complexity of individual consumer needs**
– a wide range of financial products and services, – increase in the dynamics of development of new financial products, – globalization of financial markets, – new distribution channels, – deregulation of financial markets, – increase of the amount of information.	– increase of personal responsibility for financial security, – growing instability of working life, – uncertainty of social security, – increase of indebtedness, – increase of the number of divorces, – increase of the level of personal well-being, – increase of life expectancy, – increase of the number of self-employed people.

Source: based on: M. Habschick, B. Seidl, J. Evers, D. Klose and Y. Parsian (2007), *Survey of Financial Literacy Schemes in the EU27, VT Markt / 2006 / 26H – Final Report*, Evers and Jung Financial Services, Reasearch and Consulting, Hamburg, p. 5.

the dynamic development of financial markets and demographic, economic and political changes. The scale of threats that consumers have to face taking on responsibility for their own and their relatives' financial security, is constantly growing. The reasons for the increase in the importance of financial literacy are detailed in Table 3.2.

The above catalogue was created on the eve of the outbreak of the global financial crisis. The turbulence in the US mortgage market showed what risks involve consumers' low financial literacy and a lack of reliable information policy of banks. The global financial crisis has shown to the world how important it is to improve the financial literacy of consumers, not only for themselves and their households, but also for financial institutions, the financial system and the economy as a whole. Financial literacy has been recognized as an important element of economic and financial stability and development (OECD, 2014a). Financial competencies are necessary for consumers to make informed financial decisions, both dealing with the day-to-day cash management and planning for the future, as well as in situations of financial problems. Financial literacy enables consumers to take advantage of the increasingly growing, complex and innovative offer of financial market products and services (Center for Financial Inclusion, 2013, pp. 3–4). It reduces information asymmetry between financial intermediaries and their clients. Competent customers are better partners in negotiations with financial institutions. Financial literacy protects consumers from malpractice of financial institutions, and makes them less threatened by the over-indebtedness, consumer bankruptcy or financial exclusion (Bel and Eberlein, 2015).

The financially literate consumers have a better chance to use their limited resources more effectively and achieve life goals, understood as providing a place to live, securing funds for children's education, health protection, saving for unforeseen expenses and retirement, and finally achieving financial well-being (Hall, 2008). The financial literacy does not concern only mature people, the adult participants of the financial market. This is also, and perhaps above all, an issue that should concern young people who are beginning their economic lives, young people who are just about to make their important life decisions and become consumers of financial products and services. The high level of financial literacy should allow them to avoid mistakes that could have lifetime consequences, according to the saying “the prevention is better than cure”. The growing importance of financial literacy has increased the interest in this area among many international and national organizations, financial institutions, governments, scientists, etc. from all over the world. They focus their efforts on evaluation of financial literacy level among societies, as well as on finding and refining methods of its development among consumers. As in many other developed countries, financial literacy has become the subject of interest for many Polish entities in recent years. Several institutions conduct regularly or occasionally the surveys on financial literacy among Polish society. However little research has been dedicated exclusively to the young Poles. Most studies cover all age groups, sometimes presenting results related to young, mature and older respondents. Some of the Polish surveys on financial literacy, whose respondents were exclusively the young Poles, are listed and briefly discussed in Table 3.3.

Selected Polish surveys on financial literacy, which cover the young Poles among other age groups, are presented and briefly described in Table 3.4.

As notice Cichowicz and Nowak (2017) the weakest point of those studies is the incomparability of their results. There are significant differences in research methodologies, such as e.g. different aspects of research area, the size of the research groups, as well as the age of respondents. On the basis of such diverse studies it is difficult to conjure up a clear and reliable “financial portrait” of a young Pole. Nonetheless, some general conclusions about the state of financial literacy of Polish youth can be drawn. On the whole the reports seem to be rather pessimistic. They emphasize the weaknesses of financial literacy of the young Poles. Polish youth rather critically assess their knowledge about finance and economics. The minority consider themselves to be very knowledgeable on this subject. Lots of knowledge tests seem to confirm this low self-assessment. They reveal the unsatisfactory level of financial literacy. Young Poles don’t know much about financial and economic concepts, tax and banking system, they are not fully aware of the possibilities of saving and multiplying their capital. In many cases the results of the young Poles are poorer, compared to other age groups, e.g. older, economically active people (Instytut Wolności, Reiffeisen Polbank, 2014). Rather few young respondents present a mature and responsible attitude towards their own finances and understand necessity of constant development of their financial competencies. The majority, in their youthful optimism, downplay the threats, stick to traditional patterns and make mistakes of previous generations (Kochalska and Borowiecka, 2017).

Financial literacy of young Poles has also become the object of international research. The most important study, in which participated the young Poles, was the OECD PISA study. The Programme for International Student Assessment (PISA) is a

Table 3.3: Selected Polish surveys on financial literacy dedicated exclusively to young Poles.

Date of research/ report publication	Name of research and commissioning party	Age of respondents (y.o.)	Main purpose of research	Elements of research area
2017	Financial literacy and financial education in Poland and in Germany (B. Świecka, University of Szczecin; D. Korczak, Berlin)	15	Polish – German Survey about financial literacy and financial education of young people	– Financial knowledge – Financial skills – Financial attitudes – Financial behavior
10 November 2016–18 December 2016/March 2017	*Financial life of young Poles* InfoMonitor Economic Information Bureau (BIG InfoMonitor) and Debtors Support Programme Association (Stowarzyszenie Program Wsparcia Zadłużonych)	18–25 26–35	Diagnosis and analysis of selected (significant) elements of economic competences of young people: knowledge, beliefs, attitudes and habits in money management.	– Knowledge of the scale and specifics of the indebtedness threats, – financial reality, beliefs and habits in managing personal finances, – personal experience related to incurring financial obligations and dealing with financial problems.
2016 / 2018	Enhancing financial literacy (J. Pettinicchi, House of Finance, Goethe University, Frankfurt am Main; B. Świecka, University of Szczecin)	Students from bachelor studies in management, logistics, law, and administration.	An Italian-Polish experiment in area of financial knowledge and financial education. The goal was to assess if a short course in finance has a positive impact on subjective and objective financial knowledge	– Basic level interest compounding, – inflation risk diversification.

May-August 2014/ November 2014	*Diagnosis of economic knowledge and awareness of children and youth in Poland* *Financial activity of children and youth in Poland* National Polish Bank (NBP)	– Students of the last grade of primary schools (12–13), – students of the last grade of middle schools (15–16), – students of the second last grade of upper-secondary schools (17–18).	Diagnosis of level of knowledge of economics and finance among children and youth in Poland and identification of areas of real educational needs in this area. Diagnosis of financial activity of young Poles.	– Economic/financial knowledge and skills, – ability to identify financial institutions, – knowledge of economic concepts, – determinants of level of financial/ economic literacy, – financial education at school and home, – sources of economic/financial information, – map of educational needs, – financial behaviors (earning, borrowing, spending and saving money), – level of bank inclusion.
08 November – 17 December 2013/ November 2014	*The financial portrait of the young* National Debt Register – Economic Information Bureau Inc. (Krajowy Rejestr Długów BIG S.A.)	18–35	Diagnosis of financial situation of young Poles.	– Earning and spending money, – saving and borrowing money, – living conditions.
4–18 September 2009/2010	*Financial education in empirical research* M. Kaczmarczyk, Association for the Promotion of Financial Education (SKEF – Stowarzyszenie Krzewienia Edukacji Finansowej)	15–20	Obtaining comprehensive and reliable data for the development of financial education programme for youth.	– Earning and spending money, – saving and investing money, – use of financial services, – preferences regarding financial education.

Source: Authors' own elaboration based on: A. Szwak, K. Lorenz, and R. Pomianowski (2017), *Raport podsumowujący badanie wybranych aspektów świadomości ekonomicznej oraz kompetencji w zakresie zarządzania osobistymi finansami „Młodych" Polaków*, BIG InfoMonitor; Konsorcjum Pracowni Badań i Innowacji Społecznych „Stocznia" i Grupy IQS dla Departamentu Edukacji i Wydawnictw NBP (2014 a), *Diagnoza wiedzy i świadomości ekonomicznej dzieci i młodzieży w Polsce,* Warszawa; Konsorcjum Pracowni Badań i Innowacji Społecznych „Stocznia" i Grupy IQS dla Departamentu Edukacji i Wydawnictw NBP (2014 b), *Aktywność finansowa dzieci i młodzieży w Polsce*, Wyniki badania ilościowego, Warszawa; KRD BIG S.A. (2014), *Portret finansowy młodych – raport z badań*, Wrocław; M. Kaczmarczyk (2010), *Edukacja finansowa w świetle badań empirycznych*, Stowarzyszenie Krzewienia Edukacji Finansowej, Gdynia.

Table 3.4: Selected Polish surveys on financial literacy covering young Poles among other age groups.

Date of research/ report publication	Name of research and commissioning party	Age of young respondents (y.o.)	Main purpose of research	Elements of research area
2015–2017	*Attitudes of Poles towards finances* Kronenberg Foundation of the Citi Handlowy Bank (Fundacja Kronenberga przy Citi Handlowy) and THINK! Foundation (only in years 2016–2017)	15+	Diagnosis of attitudes of Poles towards finances – household budget management, saving and investing.	– Saving, – saving for retirement, – investing, – talking about money, – expenditures control, – sources of financial information.
2015	*Family finances* Kronenberg Foundation of the Citi Handlowy Bank (Fundacja Kronenberga przy Citi Handlowy)	15+	Diagnosis of opinions and behaviors in the field of household budget management and the involvement of children in this process.	– Financial decisions, – talking about finances, – children and money, – pocket money.
17–20 January 2014/July 2014	*The state of economic knowledge of Poles* Freedom Institute (Instytut Wolności) and Raiffeisen Polbank Bank	15–24 25–39	Diagnosis of state of knowledge of basic economic and financial concepts.	– Basic mathematical skills, – financial knowledge and behaviors.
July-August 2009/ September 2009	*The state of financial knowledge of Poles* Kronenberg Foundation of the Citi Handlowy Bank (Fundacja Kronenberga przy Citi Handlowy)	18–34	Diagnosis of state of economic knowledge of Poles and areas, in which Poles are most in need of economic education (areas for educational campaign activities).	– Attitudes towards finances and factors which influence the development of these attitudes, – financial inclusion (financial services, investments, taxes, insurances and pension), – economic knowledge (self-evaluation vs. reality), – system of values and attitudes and their influence on economic knowledge.

2008–2014	*Attitudes of Poles towards saving* Kronenberg Foundation of the Citi Handlowy Bank (Fundacja Kronenberga przy Citi Handlowy) and Polish Financial Supervision Authority (only in 2008) (Komisja Nadzoru Finansowego)	15	Diagnosis of attitudes of Poles towards personal finances.	– Saving, – investing, – money management, – household budget, – financial surpluses management, – risk propensity.

Source: Authors' own elaboration based on: Raporty Fundacji Kronenberga przy Citi Handlowy (2015–2017), *Postawy Polaków wobec finansów*; Raport Fundacji Kronenberga przy Citi Handlowy (2015), *Finanse rodzinne*; Raporty Fundacji Kronenberga przy Citi Handlowy (2008–2014), *Postawy Polaków wobec oszczędzania*; Dom Badawczy Maison (2009), Raport Fundacji Kronenberga przy Citi Handlowy, *Stan wiedzy finansowej Polaków*, http://www.citibank.pl/poland/kronenberg/polish/10199.htm [access: 10.04.2018]; Instytut Wolności i Raiffeisen Polbank (2014), *Stan wiedzy finansowej Polaków*, raport z badań, http://www.instytutwolnosci.pl/images/raporty/stan_wiedzy_ekonomicznej_Polakow.pdf, [access: 10.04.2018].

triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of the15-year-old students. PISA assesses to which extent students, near the end of their compulsory education, have acquired the key knowledge and skills that are essential for full participation in modern societies. Students are assessed in science, mathematics, reading, collaborative problem solving and, beginning from year 2012, also in financial literacy (OECD, 2014 b, p. 19). Despite the fact that reports of research on financial literacy carried out by Polish entities on the young Poles do not provide too many positive conclusions, Polish 15-year-olds' mean scores in 2012 were above the OECD average. The assessment was administered to 29,000 students in 18 OECD and partner countries and economies (representing around nine million 15-year-olds). Shanghai-China achieved the highest overall score in financial literacy, followed by the Flemish Community of Belgium, Estonia, Australia, New Zealand, Czech Republic and Poland (7th/18 place). The content categories comprised the areas of knowledge and understanding that are, according to OECD, essential for financial literacy: money and transactions, planning and managing finances, risk and reward, and financial landscape (OECD, 2014b).

In 2015 around 48,000 students were again assessed in financial literacy, representing about 12 million 15-year-olds in the schools of the 15 participating countries. On average, across OECD countries and economies, 22% of students do not have basic skills. As OECD suggests, changes in financial literacy performance over time should be interpreted with caution due to changes in how the financial literacy assessment was conducted (PISA, 2017). Nonetheless, Polish mean scores deteriorated. This time they weren't statistically significantly different from the OECD average, and Poland ranked 8th/15. According to PISA 2015 (PISA, 2017) the Polish 15-years-old students scored significantly fewer points than in the previous study carried out in 2012 (published in 2015). According to PISA 2015 (PISA, 2017), Polish 15-year-olds scored 485 points (in PISA 2012–510 points) and this time they were below the OECD average, which in the PISA 2015 survey was 489 points. Not much under the line, but still below average. In 2015, the Chinese scored the most points – 566 points (in 2012–603 points), and the Belgians –541, both in 2015 and in 2012. In 2012, lower results than Poland had: USA, Russia, France, Slovenia, Spain, Croatia, Israel, Slovakia, Italy, and Colombia (PISA, 2014, p. 32). At the next survey (see Figure 3.4), in 2015 most of these countries, which had lower results, were ahead of Poland, including Russia (512 points) and the USA (587 points). The following countries had lower results than Poland: Italy, Spain, Lithuania, Slovak Republic, Chile, Peru, Brazil (PISA, 2017). The PISA is a study of 15-year-old students who completed the age of 15 in the year preceding the survey. In 2012, they were pupils from the year 1996, and the study in 2015 covered people born in 1999. In each edition of PISA, they have checked three skills: reading and interpretation, solving mathematical problems, and reasoning in natural sciences. Since 2012, the PISA survey has been extended to include an additional component – financial literacy. The inclusion of the financial literacy component in the PISA survey was the result of previous work that lasted since 2005 when

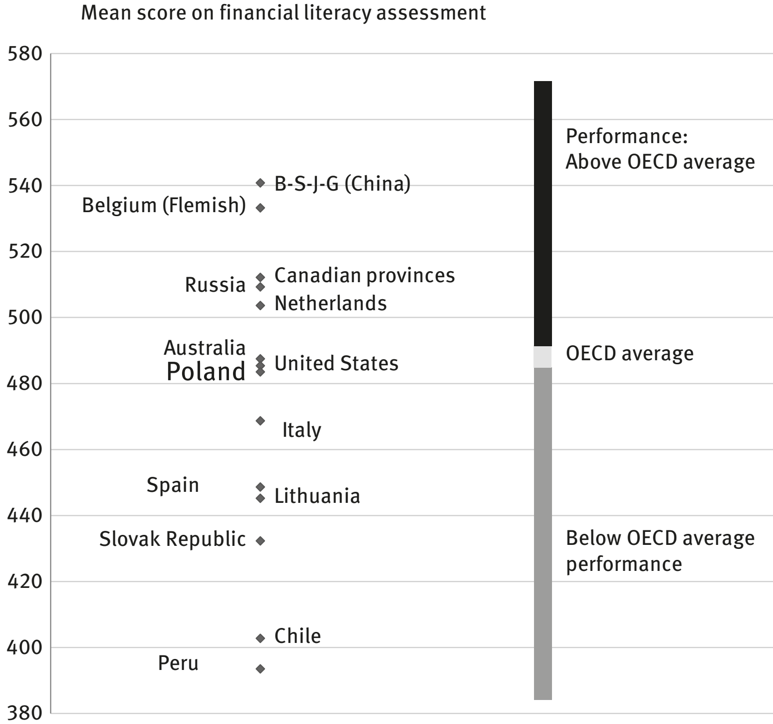

Figure 3.4: Mean score on financial literacy assessment in Poland compared to other countries.
Source: PISA (2017).

the OECD published a report highlighting the serious lack of financial knowledge in many countries around the world (PISA, 2017; 2014). In 2008, the OECD created the International Network on Financial Education (INFE) to reach out-of-OECD countries in information sharing and data collection in key areas of financial education. Due to the lack of data on OECD financial knowledge and skills, INFE took into consideration the financial literacy measurements in the PISA study. (Lusardi, 2015, p. 640). In PISA (2014), research on financial literacy was presented for the first time. These were studies carried out in 2012. Subsequent PISA surveys (2017) were published in 2017 and implemented in 2015. The PISA (2017, p. 15) financial literacy rating provides a picture of the15-year-olds' ability to apply their accumulated financial knowledge and skills. PISA (2014) was implemented in 2012 in 13 OECD countries and PISA (2017) in 2015 in 15 OECD countries. In the OECD countries, 22% of the 15-years-old students, or more than 1.2 million of them, have a baseline level of proficiency in financial literacy (level 2). Students of this level can recognize the difference between the needs and wants, such as an invoice. Some of the 12% of young people score at level 5 – the highest level of proficiency. These teens make complex financial decisions. They can describe the potential financial landscape, such as the income tax. Some 64% earn money from some type of work activity. Some 56% of 15-year-olds from the OECD countries have a bank account, 19% have a prepaid card. But fewer, one in three students, have the skills to manage a bank account. On average 84% of students discuss money matters with their parent at last once a month. Students who do so tend to perform better in financial literacy. But financial skills are strongly/related to the socio-economic background of their family. The advantaged students score 89 points higher in financial literacy than disadvantaged students (Lusardi, 2017).

Parents play a role in developing their children's financial literacy not only through the resources that they make available to them but also through their direct engagement. A significant role of financial education provided by parents is clearly demonstrated in the results of the survey (Lusardi, 2017), where the students' answers to the question "how often do you discuss money matters (e.g. talk about spending, saving, banking, investment) with your parents?" (see Figure 3.5). The importance of parents in financial education is also shown in primary research, in which the students were asked "where do you find information about financial matters? (%), and which indicates the parents are the first source of information about finance (see Figure 3.6).

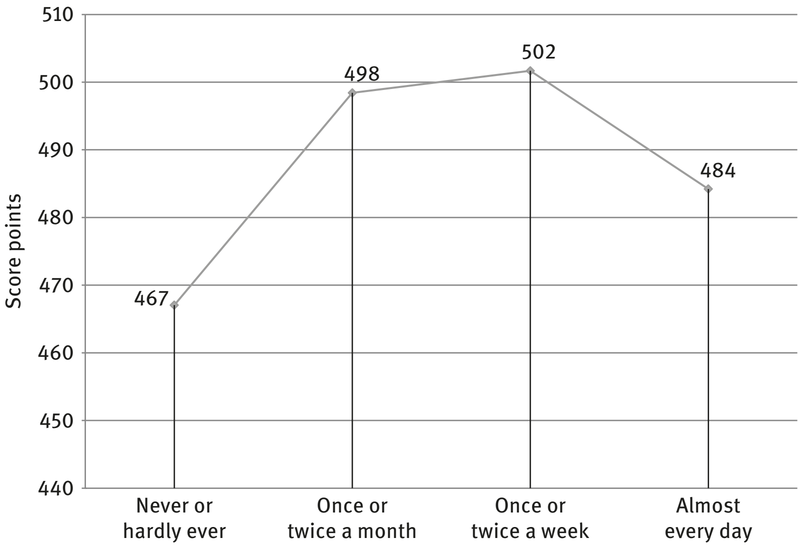

Figure 3.5: Main score of frequency of conversation between parents and children about money.
Source: Lusardi (2017).

3.3 Financial education for young people in Poland

Olga Wyszkowska-Kaniewska

According to Financial Education for Today's Workforce 2016 Survey Results (2016), the most important reasons why financial education should be addressed to young people

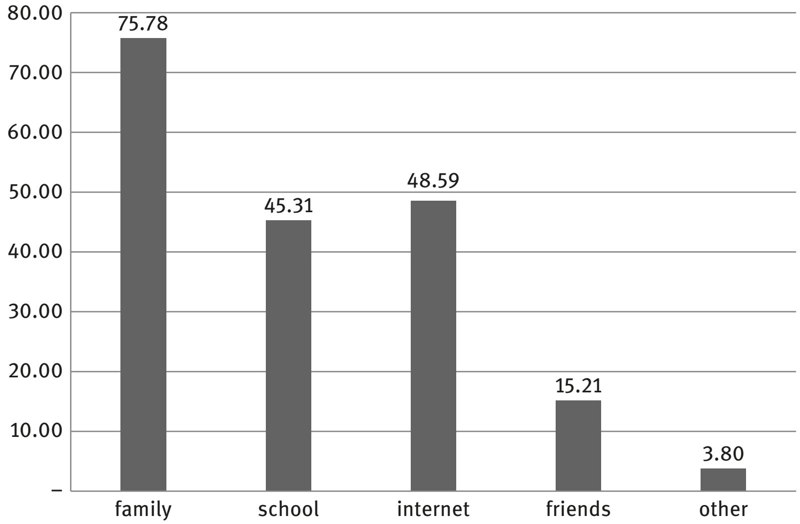

Figure 3.6: Where do you find information about financial matters? (%).
Source: Author's own study.

are: raising financial management capacity (52%), improving the allocation of assets in the light of investment decisions (42%), improving their current situation (42%), improvement of satisfaction with current benefits (36%), and facilitation of decisions regarding retirement (32%). In 2014, José Ángel Gurría – OECD Secretary-General, stated that the PISA 2012 report painted a highly worrying picture of the level of financial literacy among students in all the countries and economies which participated in the survey. He called PISA 2012 results "a true call for action". José Ángel Gurría exhorted OECD and partner countries to step up the global and common efforts to better identify the financial literacy needs of young people and explore ways to improve this essential life skill (OECD, 2014c). PISA 2015 results showed that the problem of low level of financial literacy among young people hasn't been solved yet.

The gravity of this problem has also been recognized in Poland. Many entities have been putting a lot of effort into raising the financial literacy level of the young Poles. As financial education is widely believed to be one of the most effective methods to achieve this goal (Sherraden, 2010), many initiatives in this area have also been undertaken in Poland. Nonetheless, nationally coordinated approach to financial education that consists of an adapted framework or programme, has not been implemented. There are dozens of different projects by different institutions, but they are not coordinated at the national level and there is no one official, national register of financial education initiatives. They have both local or national coverage, they are addressed to different social and age groups and concern a variety of financial issues. This multitude of educational projects is certainly valuable but they are so numerous and scattered that it is difficult to briefly describe and summarize them.

However, there is one organisation – The Polish Bank Association (ZBP, Związek Banków Polskich), which since 2005 has issued 6 comprehensive reports on financial education initiatives undertaken in Poland. ZBP is a self-government association of banks established under the Polish law as well as branches of foreign credit institutions operating in Poland. The Polish Bank Association entitled those reports *The Map of Financial Education* (*Mapa Edukacji Finansowej*). Earlier editions were issued under the name of *The Map of Financial and Insurance Education* (*Mapa Edukacji Finansowej i Ubezpieczeniowej*). The first edition of the map indicated about 200 programs and projects implemented in Poland by various entities, ranging from the National Bank of Poland (NBP), to foundations such as the Kronenberg Foundation of the Citi Handlowy Bank (Fundacja Kronenberga przy Citi Handlowy) or the Youth Enterprise Foundation (Fundacja Młodzieżowej Przedsiębiorczości), banks, insurance companies, to the Warsaw Stock Exchange (GPW – Giełda Papierów Wartościowych), other financial institutions, universities, enterprises, associations and media. Many of these programmes were implemented under the patronage and with the support of Ministry of National Education (MEN – Ministerstwo Edukacji Narodowej), Ministry of Science and Higher Education (MNiSZW – Ministerstwo Nauki i Szkolnictwa Wyższego) or Ministry of Finance (MF – Ministerstwo Finansów) (Barańska, 2014). Each of the subsequent reports shows the evolution of financial education in Poland. The number of founders and institutions running financial education programmes is constantly growing. There are more and more programmes for school students, university graduates and particular professional groups. The largest number of programmes and projects are dedicated to young people in middle and upper secondary schools. Many banks also participate in financing of various financial education projects. Bank experts and practitioners are increasingly involved in their creation and development. Volunteers from banks participate in school activities related to the development of entrepreneurial attitudes (Barańska, 2014). In 2015, in the 5th edition of the map, ZBP details 250 financial ongoing and already completed financial education projects in Poland. These initiatives include: compulsory school financial education programme (school subject *basics of entrepreneurship*), 9 ongoing nationwide financial education projects and 6 contests for primary school pupils; 21 projects and 14 competitions for lower and upper secondary school students; 19 programmes for teachers and schools; 8 educational periodicals for kids, youth and their teachers; 10 projects, 15 contests and 4 apprenticeship programmes for university students and graduates and finally 5 nationwide scholarship programmes. ZBP also describes 3 already completed projects for primary school pupils, 35 programmes and contests for lower and upper secondary school students, 12 projects for teachers and schools and 12 projects, scholarships and competitions for university students and graduates. The Map also comprises dozens of ongoing and finished initiatives addressed to other age and social groups, such as adults, women, people on low incomes and so called "knowledge multipliers"; projects involving radio and television, financial education portals and social campaigns (Bludnik, Czernek, Jurek, Marszałek, 2015). The latest, 6th map from 2017 is an update and extension of the previous editions of the report. ZBP analysed programmes and educational projects for students and adults, implemented by the media, government agencies, non-governmental organisations, banks, insurance companies and other financial entities. Projects addressed to primary and secondary school students were deliberately omitted this time. They will be presented in a separate document when the reform of the Polish education system comes into force (Czernek, Jurek, Marszałek 2017, p. 9). Some of the financial education projects addressed to the young Poles, implemented by various entities, are listed and briefly discussed in Table 3.5.

Financial education is an important element of mission of the National Bank of Poland

Polish central bank, whose goal is to support the economic development of Poland, has been undertaking activities aimed at disseminating knowledge about the rules of the financial market functioning, stimulating entrepreneurial attitudes, promoting responsibility in making financial decisions, increasing the level of knowledge of economic issues and popularizing knowledge about economic national heritage. In order to achieve these objectives the National Bank of Poland develops and supports many educational projects related to economic issues, which are addressed to various groups of recipients, especially to young people, school and academic environments, social opinion leaders, NGO workers and communities threatened with financial exclusion. When implementing its educational projects, the NBP cooperates with many institutions and organisations, e.g. the Centre for Education Development (ORE – Ośrodek Rozwoju Edukacji), the National Library of Poland (Biblioteka Narodowa), the Junior Achievement Foundation (Fundacja Młodzieżowej Przedsiębiorczości), the Educational Enterprise Foundation (Fundacja Edukacyjna Przedsiębiorczości), the Centre for Citizenship Education (CEO – Centrum Edukacji Obywatelskiej), Reuters Poland and the Polish Journalists Association (Stowarzyszenie Dziennikarzy Polskich). NBP also performs its mission by extensive publishing activity, the public activity of the NBP Money Centre (Centrum Pieniądza NBP im. S.S. Skrzypka) and the Central Library of the National Bank of Poland (Centralna Biblioteka NBP), one of the best-stocked Polish scientific libraries with an economic profile. NBP educational programmes have been reaching Polish children and youth for many years. Some of the financial education projects implemented or supported by NBP, addressed to young Poles are listed and briefly discussed in the Table 3.6.

Table 3.5: Selected financial education projects addressed to young Poles, implemented by various entities.

Project's name and coordinator	Description	Years of duration
The Bankers for Youth Financial Education BAKCYL (Bankowcydla edukacji finansowej młodzieży BAKCYL) Warsaw Institute of Banking (Warszawski Instytut Bankowości)	Programme addressed to lower secondary school students. It's a strategic, long-term partnership of banking sector companies and institutions, established to raise the level of knowledge of the young generation of Poles in the field of practical finances. It is based on the involvement of bank employees as volunteer trainers. The project supports young people in the informed management of their finances and using banking services, provides contact with practitioners from the financial services sector, and develops the entrepreneurial attitudes. It provides a set of interactive lessons in the field of financial education, along with a package of training materials, adapted to the needs and expectations of lower secondary school students, implemented by didactically prepared bank employees – volunteers.	Since 2013 until present
Live financially! how to manage finances in your personal life. (*Żyj finansowo! czyli jak zarządzać finansami w życiu osobistym*) Association for Promotion of Financial Education SKEF (Stowarzyszenie Krzewienia Edukacji Finansowej)	Project addressed to upper secondary school students. Its aim is to communicate financial knowledge in a friendly way, using workshop forms based on an innovative textbook entitled *Live financially! how to manage finances in your personal life,* and consisting of 6 chapters: *Financial planning: your road map, Career: a job that you love, Budget: do not go bankrupt, Savings and investments: your money in action, Credit: buy today, pay tomorrow, Insurance: your protection.* Teachers undergo training, get teaching aids and remuneration as part of a project. They are obliged to carry out a 15-hour course at their schools. In total, 5.308 students, 85 schools and 81 trainers from different parts of Poland took part in the previous nine editions of the project.	Since 2008 until present (9 completed editions)
Polish Championships of Young Economists competition (Konkurs *Mistrzostwa Polski Młodych Ekonomistów*) Association for Promotion of Financial Education SKEF	Competition is addressed to lower secondary school students who are under the age of eighteen. Every year, the competition concerns a different economic and financial matter (e.g. basic financial and economic concepts, household and national budget, insurance, consumer rights, responsible borrowing, non-cash turnover, etc.). The competition is divided into two stages: preliminaries and finals. The winners receive attractive cash prizes. The teacher, whose pupils sent the largest number of highly rated competition entries, also receives a cash prize. In total, over 10.500 students from different parts of Poland took part in the twelve previous editions of the contest.	Since 2006 until present (12 completed editions)

Stock Market Game (*SIGG – Szkolna Internetowa Gra Giełdowa*) Warsaw Stock Exchange and Lesław A. Paga Foundation (GPW – Giełda Papierów Wartościowych i Fundacja im. Lesława A. Pagi)	The project dedicated to upper secondary school students. It's an on-line simulation teaching young people how to invest on the stock exchange. Teams under the supervision of a teacher invest virtual PLN 100.000. Teams with the highest rate of return win valuable rewards. SIGG consists of two parts simultaneously: 1. Virtual investment game on a training platform GPWtr@der, where students invest in shares with the WIG30 and mWIG40 index, 2. E-learning course covering a necessary knowledge about investing methods and mechanisms of the capital market. Every year over 20.000 students compete in the Game.	Since 2002 until present
Children's University of Economics (*EUD – Ekonomiczny Uniwersytet Dziecięcy*) Foundation for the Promotion and Accreditation of Economic Education in cooperation with local partners (Fundacja Promocji i Akredytacji Kierunków Ekonomicznych)	Programme addressed to children aged 11–13, pupils of the 5th and 6th grades of elementary schools. The aim of the project is the promotion of economic education of the youngest, in order to encourage them to take closer interest in economic issues, develop their entrepreneurial attitudes and behaviors, make informed decisions and right choices, etc. EUD is an edutainment programme, which means "teaching through entertainment". Participation in 4 of 6 meetings is required for graduation. They have interactive form and consist of lectures and group workshops. At the end of each semester volunteers can take the final exam. The students who obtain the highest scores receive valuable prizes. Participation is free of charge. Local partners of the project are: the Warsaw School of Economics (SGH), University of Economics in Katowice, University of Bialystok, Poznan University of Economics, Wroclaw University of Economics, University of Szczecin and University of Gdańsk.	Since 2008 until now
Academy of Young Economist (*AME – Akademia Młodego Ekonomisty*) Foundation for the Promotion and Accreditation of Economic Education in cooperation with local partners	Programme of economic education for lower secondary school students, established for children who graduated from the Children's Economic University. The Academy operates in similar way to that of EUD. One semester is a cycle of six meetings on economics and management. Each meeting lasts 90 minutes and consists of a lecture, a workshop and a seminar discussion. At the end of each semester volunteers can take the final exam. The students who obtain the highest scores receive valuable prizes. Local partners of the project are: Warsaw School of Economics (SGH) in Warsaw, Karol Adamiecki University of Economics in Katowice, University of Bialystok, Poznan University of Economics and School of Economics, Law and Medical Sciences in Kielce. Participation is free of charge.	Since 2008 until present

Source: Authors' own elaboration based on: http://bakcyl.wib.org.pl/, https://www.skef.pl/zyj-finansowo-czyli-jak-zarzadzac-finansami-w-zyciu-osobistym/, https://www.skef.pl/mistrzostwa-polski-mlodych-ekonomistow/, http://paga.org.pl/projekty/szkolna-internetowa-gra-gieldowa/sigg/partnerzy/?lang=en, http://www.uniwersytet-dzieciecy.pl/strona/3/p/O_projekcie, http://www.gimversity.pl/strona/3/p/O_projekcie, [access: 20.04.2018], Bludnik I. and others (2015), *Mapa edukacji finansowej V edycja*, ZBP i PIU, Poznań.

Table 3.6: Selected financial education projects addressed to young Poles, implemented or supported by The National Bank of Poland.

Name of project	Description	Years of duration
Portal of Economic Education www.nbportal.pl (Portal Edukacji Ekonomicznej)	NBPortal.pl educational offer is designed and built primarily to meet the needs and expectations of junior high school students, upper secondary students and teachers. Its purpose is to disseminate and deepen the knowledge about finances, economics and economy, as well as to support other NBP educational activities. Access to the resources of the portal is free. It provides interesting materials on economy, macroeconomic analyses, multimedia presentations, teaching aids, expert assessments, multimedia e-learning courses, decision quizzes and games related to the subject of finance and economics, as well as a virtual library containing electronic versions of scientific publications and a dictionary of economic terms.	Since 2004 until present
Everyday Economics programme (program *Ekonomia na co dzień)*	Programme addressed to primary and lower secondary schools, extends and supplements the school curriculum of economics. Teachers take part in training courses and receive a set of teaching materials, while students get an opportunity to develop knowledge and practical skills (financial management, bank products and services, consumer rights, labour market, career and own business planning, time management), which will enable them to function better within the market economy. Project implemented in cooperation with The Youth Enterprise Foundation (Fundacja Młodzieżowej Przedsiębiorczości).	Since 2003 until present (14 completed editions)
My Finances programme (program *Moje finanse*)	Its primary purpose is to equip high school students with the knowledge and practical skills related to the financial sector and to develop skills of personal budget management, planning and saving. As part of the project, a trained group of teachers conducts classes that complement and extend the compulsory curriculum of the school subject “Basics of entrepreneurship”. Project implemented in cooperation with The Youth Enterprise Foundation (Fundacja Młodzieżowej Przedsiębiorczości).	Since 2004 until present (13 completed editions)
A national essay competition on economics (Ogólnopolski konkurs na pracę pisemną o tematyce ekonomicznej)	Competition targeted at lower and upper secondary school students. The aim of the contest is to increase the interest of young people in economic knowledge, check the practical skills of applying it and to encourage the headmasters and teachers of lower and upper secondary schools to implement practical elements in teaching economics and develop students’ ability to function in a market economy.	Since 2002 until present (16 completed editions)

The Young Entrepreneurial project (projekt *Młodzi Przedsiębiorczy*)	Project addressed to students and teachers from lower secondary schools. It is a practical and innovative economic education initiative based on the possibility to apply economic knowledge in practical activities. Young people learn how to work as a team and manage their own and other's work. They gain skills and practical experience in the field of running their own business in a virtual reality reflecting market and administrative realities, establishing cooperation with partners, promoting their own ideas, using limited resources and analysing risk. Project implemented in cooperation with Centre for Citizenship Education (CEO – Centrum Edukacji Obywatelskiej,).	Since 2009 until present (7 completed editions)
Economic Knowledge Olympiad (Olimpiada Wiedzy Ekonomicznej)	The aim of the project is the economic education of youth, deepening their knowledge of the modern economy and support for the particularly gifted students. The Economic Knowledge Olympiad is one of the most popular knowledge competitions in Poland, also in terms of the largest number of contestants (about 12 000 each year). The Olympiad is an opportunity for the student to get admission to a university without tests, a scholarship, an exemption from the vocational examination, receiving cash or other valuable awards. Project implemented in cooperation with Polish Economic Society (PTE – Polskie Towarzystwo Ekonomiczne).	Since 1987 until present (30 completed editions)
The NBP Money Centre in memory of Sławomir S. Skrzypek (Centrum Pieniądza NBP im. Sławomira S. Skrzypka)	The NBP Money Centre is a modern interactive educational exhibition showing the history of money and its role on the background of socioeconomic history of the world and Poland. The visitors of the Centre have an opportunity to discover the history of money, broaden their knowledge about the economy, learn the role of a central bank in a monetary system and get familiar with important economic processes. In an interesting way they can learn how to deposit and invest their money, what is currency and what role is attributed to the central bank of Poland. The Centre has at its disposal the newest multimedia equipment, interesting films, video games and animations.	Since 2016 until present

Source: Authors' own elaboration based on: https://www.nbportal.pl/o-nbportal.pl, https://owe.pte.pl/, http://www.nbp.pl/en/onbp/informacje/dzialalnosc_edukacyjna.html, https://glowna.ceo.org. pl/, http://www.nbp.pl/home.aspx?f=/o_nbp/informacje/dzialalnosc_edukacyjna.html, https://ekonomia-na-co-dzien.junior.org.pl/pl/Ekonomia-na-co-dzien-w-szkole, https://przedsiebiorczy.ceo.org.pl/, https://en.mennica.com.pl/coins-and-numismatic-products/catalogue/product-details/nbp-money-center-in-memory, [access: 22.04.2018].

3.4 Elements of financial education in the Polish school system

Olga Wyszkowska-Kaniewska

The projects implemented by various entities, described earlier in this chapter, make up the non-formal financial education system of the young Poles. The Polish school system is also engaged in raising financial literacy level of Polish youth. However, the formal financial education is undergoing changes due to the revolution in the Polish education system. After the parliamentary elections in 2015, the winning party declared to fulfill its campaign promise to eliminate middle schools and re-establish the two-tier education system that had existed before 1999. In June 2016 the new Minister of Education presented the government's plans for redrawing the school system. The reform was adopted by the Polish parliament in 2016 and came into force at the beginning of 2017/2018 school year. The up-to-2017/2018 three-level system of compulsory education was organised on the basis of: six years of elementary school, three years of lower secondary school and three to four years of upper secondary school, technical high school or general vocational school. The two-level system which replaced it, comprises eight years of primary school and four to five years of secondary school, technical high school or vocational school (divided into two stages: of three and two further years). Currently, the Polish education system is in the transition period. Lower secondary schools stopped enrolling new students in 2017 and are expected to close in 2019 (Czarzasty, 2017). The new core curriculum for secondary schools is going to be implemented in the school year 2019/2020.

So far, the primary and lower secondary school curricula haven't comprised a separate subject on finance and economics. However, students have the opportunity to learn some financial issues during the maths lessons (while solving problems related to practical calculations of quantity, price and value). In the lower secondary schools, a few financial and economic matters are taught during civics classes. Their syllabus includes the module *Education for active participation in economic life* (*Wychowanie do aktywnego udziału w życiu gospodarczym*), which introduces students to the basic economic concepts and mechanisms. In the upper secondary schools there is a separate, mandatory 70-hrs subject called *The basics of entrepreneurship* (*Podstawy przedsiębiorczości*) since 2002. Experts critically assess its syllabus, pointing out its numerous weaknesses. In their opinion it doesn't develop essential life skills, such as money and household budget management, opening a bank account, calculation of discount and compound interest, choosing financial products, filling out the loan application, calculation of loan instalments and costs, etc. It focuses on the functioning of the enterprise and the economy as a whole, rather than on personal finances management. Very few classes take place in forms other than lessons at schools (e.g. visits in banks or brokerage offices). In the school year 2012/2013, a new 30-hrs subject *Economics in practice* (*Ekonomia w praktyce*) was introduced to upper secondary schools curricula. The course is non-mandatory and complementary to the *Basics of Entrepreneurship*. Its aim is to develop the ability to carry out the entire implementation of the business project: from the idea, to the preparation of the plan and its implementation, to the analysis of the project's effects. This subject is supposed to prepare students to enter the labour market (Dąbrowski, 2011; Korba, 2013). The new core curriculum for secondary schools, which is to be implemented from the school year 2019/2020, had undergone interministerial consultations until July 2017 and public consultations until August 2017. Some of the submitted comments were taken into account, including those concerning the teaching of social sciences and economic and financial education.

In the new core curriculum for secondary schools, financial and economic education will be implemented as part of the subject *Basics of Entrepreneurship*. The subject's syllabus is the synthesis of selected elements of knowledge in the field of economics, management and finance, enriched with elements of socio-economic geography, political science, sociology, psychology, and law. The acquisition of knowledge, skills and attitudes concerning the functioning of the market economy, financial market, labour market and the enterprise, is considered to be a vital part of the youth education process (Annex no. 1. . ., p. 15, 191–198). The syllabus consists of 4 modules: *The Market economy* (min. 8 hrs.), *The Financial market* (min. 13 hrs.), *The Labour market* (min. 12 hrs.), and *The Enterprise* (min. 19 hrs.). The whole course covers approx. 65 hours. The remaining time teachers can spend on extending selected content, at their own discretion. Teachers are encouraged to use practical forms of training, such as simulation games, visiting enterprises, reading fragments of legal acts, filling out various types of forms, e.g. transfer orders, invoices or annual income tax declarations, implementing of business projects, formulating consumer complaints to financial market institutions or to the Financial Ombudsman using an example of a selected financial product, organising meetings with entrepreneurs, etc. The new core curriculum comprises more issues regarding personal finance management, like consumer rights, the risk and reward in saving and investing, saving for retirement, analysing bank offers (in terms of bank accounts, payment cards, deposits, loans, real interest rates), calculating income tax, analysing insurance offers, etc.

Some economic and financial issues are also part of syllabus of other subjects. These are: geography (labour market, unemployment, GNP, national and international investments, globalisation, etc.), civics (UE, household budget, social and health insurance, unemployment, etc.), maths (calculation of interest rate on bank deposits and loans, real interest rates, wage costs, etc.), computer science (using a text editor, mail merge, spreadsheet for calculating interest rates, graphic programmes for designing a company logo, leaflets, posters, business cards, etc.) and history (history of money and banking, stages of the European Union's development and economic transformation in Poland, etc.) (Annex no. 1. . ., p. 201). In the new core curriculum, the subject *Economics in practice* no longer exists and there is still no separate course on economics and finance for primary school pupils. Economic and financial concepts are only going to be mentioned during other classes. Taking into account all the initiatives of youth financial education, both formal and non-formal, it cannot be stated that this issue has been neglected in Poland. So much has been done and is being done. But on the other hand, the results of research on financial literacy of young Poles suggest that a lot still needs to be done. When it comes to education in schools, the new syllabus of the *Basics of entrepreneurship* seems to be comprehensive, comprises more issues regarding personal finance management and stresses the necessity of practical use of gained knowledge. The weak point is certainly the small number of course hours. The other disadvantages of the new formal financial education system of Polish youth is the withdrawal of the subject *Economics in practice* from the new core curriculum and the lack of financial education classes for primary school students.

There is a multitude of non-formal financial education programmes dedicated to Polish youth. Projects are implemented by dozens of entities, but they still do not reach the whole population of the young Poles. They are often carried out locally, on a small scale. In addition, they often cover only selected aspects of financial literacy and do not offer comprehensive training in terms of financial knowledge, practical skills and appropriate attitudes development. In Poland financial education is not coordinated at the national level and currently there is no institution or government office responsible for that. Although Poland is on the OECD list of 25 countries where *National Strategy for Financial Education* is being actively designed (OECD, 2015), no official document or legal act in this area has been announced and published yet.

4 Financial education and financial literacy in Germany. An Overview

Dieter Korczak

4.1 Over-indebtedness and assumptions about the need for financial education

Germany has 8,267 million inhabitants and is a rich country. The total wealth of the population amounts to 14,000,000,000,000 EUR, including a money fortune of 5,676,000,000 EUR. There are 500,000 millionaires in Germany. The richest 1% of the population owns 1/3 of the total wealth. But there is another side of the medal as well. The lower 50% of the population own only 2.4%. 20% live by social security transfer payments. Only 40% live in their own home, Germany is a tenant country. According to the annual study of the German collection agency Creditreform almost 7 million people are over-indebted in Germany in 2017, which means about 3.4 million households. From these 1.66 million individuals are under 30 years old (Vereine Creditreform, 2017). Do these figures mean that financial education has failed in Germany? Or do they point to a structural problem of an economy which produces more and more precarious life situations and deprived groups? Is it possible to improve the situation of financially endangered persons by the intensified financial prevention activities? The general idea of a prevention policy and hope it brings is that financial competences provide better protection in all life situations. Thanks to financial competences consumers can take self-responsibility and are better able to protect themselves against life risks. The preventive activities especially address the needs of the youth and the young adults, although it should be emphasized that the minors (the age of majority in Germany is 18) lack the legal business capacity and should not be over-indebted. (The capacity of natural and legal persons in general determines whether they may make binding amendments to their rights, duties, and obligations.)

Other studies show a slightly differentiated picture of the problem. According to the German credit reference agency SCHUFA, credit-taking increases considerably from the age of 25 (see Table 4.1). In the age group 18–19 only 2.5% have taken a credit of, on average, 4.263 €, while in the age group 20–24 this proportion is 10.9% with an average of 6.839 €. Credit loss, i.e. the borrowers' inability to pay back the credit, happens in 1.9% (18–19) and 2.6% (20–24) of the credit takers. For comparison, in the group with the most loans (45–49), 21.5% have the loans of, on average, 12.231 €. Credit loss happens in 1.9% of this group of credit takers. In absolute figures, in Germany in 2016 664 credit takers aged 18–19 cannot pay back their loan. This is a very small number. Again, the question arises: what is the influence of financial education on the development of these figures? Obviously, there are some life circumstances (see Korczak, 2006) which increase the number of credit takers and credit losses in the age group above 20 years.

https://doi.org/10.1515/9783110636956-004

Table 4.1: Amount of loans in Germany 2016 by age.

Age group (years)	Loans (in absolute figures)
18–19	34,950
20–24	656,529
25–29	1,559,887
30–34	1,799,634
35–39	1,899,373
40–44	1,896,279
45–49	2,372,941
50–54	2,451,798
55–59	1,876,554
60–64	1,182,050

Source: SCHUFA (2017).

One answer to the growing number of over-indebted persons in Germany was the implementation of the debt advice centers. Since 1980s the central elements of the debt advice services have been the practical life-style and pedagogical-preventive activities. In detail, the advice agencies support self help skills and organization of the household and budget plans, learning of an adequate income vs. expenditure behavior, the safe use of a bank account, making payments on time, applying to authorities for advice concerning insurance and credit taking. The first research study in Germany dealing with the situation of the over-indebted people demonstrated that educational deficits (22%) were ranked by debt advisors as a fourth cause of over-indebtedness. The first three causes were unemployment (40%), problems with running a household (36%), and low income (32%) (Korczak and Pfefferkorn, 1992). The study has recommended to improve the financial education of the population: „Dieser Anteil (Bildungsdefizite) unter den überschuldeten Personen bzw. Familien weist eindringlich darauf hin, wie wichtig Aufklärung. Information und Beratung im Vorfeld der Kreditaufnahme sind" (Korczak and Pfefferkorn, 1992, p. 275). Twenty-five years later a solid financial education is one of the basic skills of a household. According to Helmut Schleweis, President of the German Saving Bank Association (DSGV), this is a societal consensus.[1]

In the last 25 years a lot of different preventive material has been developed by saving banks and banks, insurance companies, business newspapers, consumer protection organizations, debt advice services, welfare organizations, and universities. While these tools put emphasis differently, follow different agendas and use different terminology, they all intend to describe and define financial education. A number of – partially synonymous – terms are in use: financial education, financial literacy, financial competence, financial knowledge, financial attitudes and behavior, financial resilience, financial skills, financial capabilities, financial empowerment.

1 In a keynote speech at the 10th Forum of private households, April 19, 2018, Berlin.

The definitions of the OECD and the PISA study are presented in Chapter 1, therefore they are not repeated here. However, it is important to characterize the underlying hypotheses of these definitions:

1. The individual has not enough knowledge about financial matters.
2. Deficits can be removed by learning of special coping techniques.
3. The necessary knowledge can be taught.
4. The individuals are willing and prepared to take the offered information and to improve their knowledge skills.
5. Better knowledge leads to sound or effective financial decisions and to a financial well-being.

These hypotheses provoke numerous research questions: What precisely means financial knowledge? What belongs to the canon of financial knowledge? Does improved knowledge really leads to better financial behavior? How motivation to accept financial knowledge can be increased? Is there a higher correlation between financial knowledge and saving than between financial resources and saving? What are the results of the role model of parents? There are studies showing that the financial behavior of the parents has a central influence on the financial competence of their children (Grohmann and Menkoff, 2015). Finally, there remains the central question of what should be the content of a curriculum or a prevention tool to effectively prepare young people for the challenges of financial life and financial services.

The analysis of various definitions of financial education provided by many different authors points to five core elements of financial education (Gnam, Silgoner, Weber, 2007):

- you have to get knowledge,
- you should know how to use money,
- you should know how to deal with life risks,
- you should know how to save money and make provision for old age,
- you should know how to use the financial products and services.

This basic understanding of financial education is again represented in a current German definition: „Basic financial education puts the focus on the existential demands of daily life behavior regarding financial matters.“ (Mania and Tröster, 2014, p. 140) Financial education is part of economic education which is broader and includes information about the functioning of the market and its institutions (e.g. enterprises, banks, Central Bank) as well as economic theories.

4.1.1 Determinants of financial behavior

It is worth to have a brief look at the factors which determine the financial behavior of a person. One important factor is the available income. Consumption demand increases with growing income and decreases with falling income (Siebert, 1989). But consumption decisions are not only dependent on the amount of income but also on the individual position in the income pyramid, i.e. on the person' relative income. Consumers orientate their consumption not according to their financial means but by the standards of more privileged persons (relevant others consumption). It is therefore difficult for consumers to lower their consumption expenditures in relation to their lower income after a reduction of income (Duesenberry, 1949). This observation leads the Nobel prize winner Galbraith to the conclusion that the term „independent demand" is not correct. The production of goods itself produces the needs which shall be satisfied by the products (Galbraith, 1963, p. 141).

Furthermore, additional factors have to be taken into account in the judgment of the financial behavior: the gathered money, the amount of real estate, the price- and income expectations, the life cycle of a household, the level of information, the risk affinity, participation, diversification and individualization possibilities by spending money and finally the supply pressure of the market. The capability of assessing risk, taking precautions against possible risk, and dealing in an adequate way with the risk are of high importance for the prevention of over-indebtedness. These protective factors are generally weakly developed for youth and young adults, because of their age and amount of experience. The analysis of the biographical data of the young adults in Germany shows that for this group leaving the parental home and organizing their own private life is a big challenge which causes a risk of over-indebtedness because of the discrepancy between the income, the needs and the budget experience. Additionally, the former life with the parents, the level of educational qualifications, unemployment, lack of orientation and emotional and substance addiction are relevant influencers (Korczak, 2006). Furthermore, in recent years the approach of behavioral economics has shown that consumers become systematically psychologically and emotionally influenced. Yet, the results of behavioral economics research has not so far offered any valid explanation of the relationship between knowledge and behavior. „Behavioral economics has not provided us with a clear understanding of the link between knowledge and behavior" (OECD, 2013, p. 8).

4.1.2 Financial education for Gen Z in Germany

It wasn't until the 20th century that demographers started naming generations. The naming is very often done by marketing purposes. So the naming of Generation Z was not done by scientists but by the US newspaper US Today. This newspaper did a contest to find out a name for the demographic cohort born after January 1, 1995. The most proposed name was Generation Z. The age definition is different according to different authors. Some researchers define Gen Z as those born after January 1, 2000. So did the US based Raddon Research Insights institute in a recently conducted study. Raddon published some interesting results about Gen Z. Not surprising they use social media at least once a week. More a kind of news is that Gen Z are regarded as savers. One third of them has already in their own name an account at a bank or credit union, another one third has a joint account with their parents. Though they were born into and raised in a world of constant connectivity through an onslaught of mobile devices and social media, 48% of respondents in Raddon's research say they prefer to do their banking in a branch — face to face with an employee. Yet at the same time, a third believe they won't need to use a traditional banking provider in the future, and 42% are excited about using companies like Google, Amazon, Apple or PayPal for their financial affairs. 46% of Gen Z respondents say they already use or are likely to use prepaid cards, presumably because these help control/limit spending. 49% of Gen Z either already uses or are extremely or likely to use no-overdraft checking. These data show that the Gen Z is as diverse as many other youth populations have been. But central and in a way unifying for them is the use of digital devices. Within the banking industry it is a conviction that retail financial institutions must start building relationships with consumers while they are still young, not to miss out business opportunities. Therefore it is not surprising that Raddon recommends to intercept the generation Z where they are: at high schools. This is a recommendation which does not fit to the German school system and regulation. It is not allowed to advertise at schools. According to the results of Raddon, Gen Z believes that financial education programs are extremely or very valuable. They are more likely than any other generation to attend a financial education program. They want to learn about budgeting, investing and understanding credit. They'll use online education programs, but most prefer attending a group program. This is a great option and prerequisite for each provider of financial education.

4.2 Financial education of young people in Germany

Risk oriented personality structures, early consumption orientation, negative parental role models and low educational qualifications belong to the causal factors of becoming over-indebted. Financial education strives to change these negative factors. The concepts and activities are oriented to the process of socialization conceived as a lifelong personality development. „Sozialisationsvorgänge sind kontinuierlich über die gesamte Lebensspanne hinweg zu beobachten und stehen in jeder Lebensphase (Kindheit, Jugend, Erwachsenenalter) unter verschiedener Akzentsetzung" (Hurrelmann and Nordlohne, 1989, p. 610). The concepts and activities of financial prevention are therefore directed to different institutions. During primary socialization children acquire the subjective ability to act. In this phase the parental educational style, the role behavior, the organization of daily (working) life and the consumption manners exert decisive influence on the development of risky or non-risky behavior. The first contact with money and the first insights into the financial and economic organization of a household are learnt in this phase. Because of the importance of the first years of life for later consumption and expenditure behavior, a welfare organization Caritas developed a prevention concept for kindergarten. The concept „Süßes Leben – Überquellendes

Kinderzimmer" offers assistance and support to parents during the first 3–6 years of their children (see www.caritas-nah-am-naechsten.de).

In secondary socialization children and youngsters learn in the educational institutions like schools new roles, new competences and adopt different perspective. School is a very important agent of socialization, promoting specific interpretation of life, society and economy with the use of theory, examples and educational material. „Few, if any, instruments shape national culture more powerfully than the materials used in schools" (It ain't necessarily so, in: The Economist, October 13–19, 2012, p. 27). The development of brand conscience or the culture around smartphones happen in this age phase. Therefore many educational tools focus on the age group 12–17 and try to offer them orientation. In tertiary socialization (which begins with maturity, adulthood and acquiring voting rights) the new so-called „relevant others" become important, e.g. peer groups, business colleagues, sport colleagues, fellow students, media, advertising, and political parties. Tertiary socialization is a lifelong process in which attitudes and behavior get checked and changed, newly developed or stabilized. Table 4.2 presents a rough overview of different actors and materials engaged in the field of financial education in Germany.

While the presented sixteen concepts of financial education are diverse, they share some common features. The concepts are presented below. To get more transparency, the Verbraucherzentrale Bundesverband (vzbv) has installed an online platform called „Materialkompass" which compares and evaluates various concepts. The material of the business associations and business magazines is generally criticized. „Materialkompass" criticizes the approach of „My Finance Coach" as unbalanced, biased, highly selective and tendentious (see www.verbraucherbildung.de/material/my-finance-coach-mach-dich-finanzfit). The „safty1st" concept gets faulted because the core interest of the insurance industry has been too much emphasized. The information provided is superficial and not appropriate to the life situation of the students (see www.verbraucherbildung.de/material/safety-1st-soziale-sicherung-pri vate-vorsorge) The material of the economic newspaper „Handelsblatt" is too abstract or contains just one-sided excerpts from the magazine which has a neo-liberal bias. A just recently published study analyses the effectiveness of programs for financial education (Kaiser and Menkhoff, 2018). This meta-analysis uses the data and results of 126 studies with randomised trials. Included were the pre-/post-test studies, quasi experiments and randomised controlled trials (RCT). The effectiveness of a study was determined by the effect size (Hedges' g). The stronger was the research design, the lower was the effectiveness. The included 17 pre-/post-test studies had an effect size of 0.56, the 75 quasi-experimental studies had an effect size of 0.19, and 51 the RCTs had an effect size of 0.13. An effect size of 0.20 is regarded as a weak effect. Thus all the controlled studies had an effect lower than weak effect, which, in other words, means: they were ineffective.

Table 4.2: Projects and material of financial education in Germany.

Title	Author/Distributor	Content
„Finanzen & Steuern"	Federal Ministry of Finance www.bundesfinanzministerium.de	For Secondary II education: Working papers about taxes and tax system, federal finances, federal and family policy, retirement precaution, globalization, international cooperation, European fiscal policy, current challenges
„Zukunft klipp & klar"	German Insurance Association www.safety1st.de	Media package with online game „way of life" and working papers about insurances, provision for age, saving, entry into working life, income-expenditure plan
„Handelsblatt macht Schule"	Economic newspaper „Handelsblatt" www.handelsblattmachtschule.de	For Secondary II education: Subscription to the economic newspaper, curriculum „financial education" developed by the Institute for Economic Education, University Oldenburg
„Hoch im Kurs"	The association for investment fund management companies and investment funds (BVI) www.hoch-im-kurs.de/lehrerk	For Secondary II education Booklet (28 pages): saving motivation, needs in specific life phases, national economy, shares and bourse, budget plan; „financial experts" of the BVI
„Gut auskommen mit dem Einkommen"	German Saving Banks Financial Group (dsgv)/ Deutscher Sparkassen- und Giroverband Advice service Money and household www.geld-und-haushalt.de	Booklets: Housekeeping book, pocket money guide, budget compass, financial knowledge Online: web-budget planner, budget analysis, reference budgets, App: Financial checker expenditures
"Wirtschaft und Finanzen live, Initiative Finanzielle Allgemeinbildung"	Deutsche Bank https://www.db.com	Employees of the Deutsche Bank can be invited by schools. Eight modules are available: Class 5–8: "What is Money?" Class 7–10: "History of Money"; "Saving and Credit Taking"; "Juridical Questions" Class 9–11: "Banking System"; "Function of Bourse"; "Economy Circulation"" Class 11–13: "Global Finance System"

(continued)

Table 4.2 (continued)

Title	Author/Distributor	Content
Network „Financial competence NRW"	Ministry of Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia www.netzwerk-finanzkompetenz.nrw.de/medien	For Secondary II education: Game „Groß geträumt – Konto geräumt – geht auch anders?" (reflection on expenditures, consumption, needs)
„Curriculum und Professionalisierung der Finanziellen Grundbildung (CurVe II)	German Institute for Adult Education www.die-curve.de	Competence model with six domains: income; money and payments; shopping and expenditures; housekeeping, risk management, saving; credit taking; provision for age and insurances
„Unterrichtshilfe Finanzkompetenz"	Working group Debt Counseling of the welfare associations (AG-SBV) and associations of the credit industry www.unterrichtshilfe-finanzkompetenz.de	Nine modules: finances; driving license and car; new home; furnishing new flat; mobile phone and debt; online shopping; provision for age; debt spiral; advertising and consumption
„Verbraucherprofi"	Bavarian State Ministry of the Environment and Consumer Protection www.verbraucherbildung.bayern.de	Optional subject for Bavarian Realschule. Basic module – financial competence: payment transactions; insurances; wealth formation; provision for age; credit taking
„Cashless"	City of Munich www.cashless-muenchen.de	For age group 7–25. Lessons in vocational schools. Modules: desires/needs/advertising; account and card; household planning and budget change; driver license and car; life events and debt
„Finanzgenie"	Welfare organization Diakonie www.diakonie-passau.de	Action oriented project which prepares youth for the time after leaving school. Training elements: pocket money; internet risks; consumption behavior; smartphone; first home; first car; online banking; shopping and jobs; bank visit; online shopping

Table 4.2 (continued)

Title	Author/Distributor	Content
„Finanzführerschein"	Debt advice agency Schuldnerhilfe Essen GmbH www.finanzfuehrerschein.de	Three versions of the „financial driving license": a) one for 13–15 y. o., b) one for 16–19 y. o., c) a version for online shopping for 16–25 y. o. Printed and online training material to prepare for the financial test. Material explains the costs of getting a driving license, car maintenance, the first flat or insurances, the risks involved with bank accounts, internet Googling, consumption, credit taking or the use of mobile phones.
„Neli – Next exit life"	Developed by a teacher, financially supported by the German Structured Finance Ltd. www.nextexitlife.de	Game considering everyday life situations to improve financial, consumptive and work life competences
„Fit fürs eigene Geld: mit dem Einkommen auskommen"	Ministry of Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia www.netzwerk-finanzkompe tenz.nrw.de/medien/	For vocational education: Five modules: needs; budget planning; saving; money transactions; over-indebtedness risks
„My Finance Coach"	Foundation of Allianz, McKinsey and KPMG www.myfinancecoach.org	Schools have to invite experts of the foundation. They offer eight training modules: introduction; buying; saving; planning; risks; environment and commerce; online and finances; housekeeping planning

Source: Authors' own work.

4.3 Financial literacy of young people in Germany

In the last twenty years several studies have been conducted mostly by the banks-to measure financial literacy. They mainly concentrated on the (representative) measurement of financial knowledge or financial competences. (see overview by Kaminski and Friebel, 2012, p. 7ff.). The results of these studies can be summarized as follows:

1. There are deficits existing concerning the financial knowledge of the population. This is valid for all population groups. But it has to be considered that the ignorance mainly affects the element of higher knowledge, elements like inflation or the characteristics of specific financial products.

2. There exists a difference between the self-image of the respondents' about their financial knowledge and their objective knowledge. Many respondents overestimate their knowledge.
3. As a consequence of the financial crisis, respondents tend to feel unsecure about their financial decisions. This leads additionally to an unwillingness to deal with financial matters. (Kaminski and Friebel, 2012, p. 12).

One of the current studies has been carried out by the German bank group Union Invest. In this study 89% of the population aged from 14 years and above reported knowledge deficits concerning provision for the age. Also very high deficit notions get the subjects recorded in the categories „debt, payment by installments and household budgets" (79%), „interest rates and saving" (76%), and „insurances" (72%). Especially the youth (aged 14–19 years old) see the knowledge problems concerning" debt, payment by installments and household budgets" (33%). In this study the interviewed experts (politicians, financial advisers, journalists, consumer protectionists, teachers) mention as the biggest obstacle for a better financial literacy the insufficient teaching of the subject at school, poor knowledge transfer by the parents, and lack of self responsibility in young people. Knowledge about money is not a positively connnotated lifestyle subject, therefore the experts point to lack of interest as another big hurdle. The main responsibility for the conveying of financial knowledge assign the experts to the families (73%) and to the schools (68%). But only 55% of the experts believe that the schools have already taken over this responsibility. 61% of the population and 57% of the experts recommend introducing a separate school subject in schools.

4.4 Elements of financial education in the German school system

Germany is a federal republic with sixteen states. The federalist principle is an acknowledgement of the regional structure which has evolved through Germany's history and is an element in the division of power and also, in a democratic state, a guarantee of diversity, competition and community-based politics. According to the German Constitution (Art. 7 (1) GG) the German State is responsible for the supervision of the school system: „Das gesamte Schulwesen steht unter der Aufsicht des Staates.". The independence of the single German States (Länder) in matters of culture and education is also guaranteed by the Constitution (Art. 30 GG): „Die Ausübung der staatlichen Befugnisse und die Erfüllung der staatlichen Aufgaben ist Sache der Länder, soweit dieses Grundgesetz keine andere Regelung trifft oder zulässt.". Therefore schools and school education belong to the responsibility of the Länder. In many of the Länder the school system is regulated by the state constitution (e.g. Constitution of the State Brandenburg, Art. 30) and a school law (e.g. Brandenburgisches Schulgesetz, BbgSchulG). The BbgSchulG consists of 149 paragraphs.

Within each state the Ministry of School, Education and Culture takes the responsibility for the school staff and the educational program. The Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK, Kultusministerkonferenz) was founded in 1948 and plays a significant role as an instrument for the coordination and development of education in Germany. To the agenda of the KMK belongs to form a joint view and to look for representation of common objectives. By agreement of the Conference of Ministries of Culture the German school system is vertically organized in three levels. As a rule, that children turn six, they are obliged to enter primary school (Grundschule). The transition from the primary school to one of the various lower secondary school types, where pupils remain at least until the completion of their full-time compulsory education, is dealt with differently depending on the Länder legislation. Once pupils have completed compulsory schooling – generally when they reach the age of 15 – they move into upper secondary education. The type of school entered depends on the qualifications and entitlements obtained at the end of lower secondary education (see Table 4.3). The range of courses on offer includes full-time general education and vocational schools, as well as vocational education and training within the dual system.

Table 4.3: International Standard Classification of Education (ISCED) – Germany.

ISCED	LEVEL	EDUCATION	TYPE
1	**Primary**		
10		General education	Grundschule / Gesamtschule (1–4)
2	**Secondary I**		
24		General eduction	Hauptschule (5–10) / Realschule (5–10) / Oberschule (7–10) / Gesamtschule (5–9/10) / Gymnasium (5–9/10)
25		Vocational education	Berufsvorbereitungsjahr
3	**Secondary II**		
34		General education Vocational education	Gymnasium (9/10–12/13) / Gesamtschule (9/10–12/13) Berufsschule (3 years)

Source: https://www.bildungsbericht.de/de/bildungsberichte-seit-2006/bildungsbericht-2016/pdf-bildungsbericht-2016/bildungsbericht-2016.

The specific courses and subjects in a school are determined by the curriculum which is defined by the Culture and School Ministries of Education in each single state due to the federalist structure of Germany. The legal situation for Brandenburg is defined in § 10 (1) BbgSchulG: „Der Unterricht wird auf der Grundlage von Rahmenlehrplänen erteilt. Die Rahmenlehrpläne bestimmen die verbindlichen Anforderungen und Inhalte (Kerncurriculum) ebenso wie die Gestaltungsfreiräume und Wahlmöglichkeiten im Unterricht der Fächer, Lernbereiche, übergreifenden Themenkomplexe oder Lernfelder".

According to the legislative background, financial and consumer education are part of the school lesson „Business – Labour – Engeneering" (Wirtschaft-Arbeit-Technik, WAT), „Political Education" (Politische Bildung, PB), and a cross-sectional educational option. The way consumer education should be offered is regulated by a resolution of the KMK „Verbraucherbildung an Schulen" (12.9.2013). In the resolution the aim of consumer education is defined as the development of a responsible consumption behaviour by providing information on the consumption related content and on competences enabling a self-reflective and self-determined consumption behaviour. The cross-sectional character of consumer education allows it to be integrated into the content of the traditional school lessons (e.g. Math, Languages) and enables specifically interdisciplinary and interlinked learning. The learning situation has to be neutral, objective, and free of commercial or political interests. But it is accepted to supplement the information from extracurricular activities (e.g. projects, exhibitions, competitions) and outside school activities sources (e.g. public institutions, associations, companies). This allows school and the teachers to use the material described in Chapter 4.2. The curriculum of Berlin – Brandenburg for WAT has no specific part for financial education (see Table 4.4).

Table 4.4: Curriculum. -Part C: / Business –- Labour – -Engineering Class 7–10 (Berlin)/ 5–10 (Brandenburg).

Class 5/6	Class 7/8	Class 9/10
Healthy nutrition	Nutrition, health and consumption	Nutrition and consumptionm from a local and global viewpoint
House keeping (gender specific work diversification, income, money functions, juvenile consumption, effects of advertising)	Market, economic circulation and political framework	Entrepreneurial behaviour
Interests, capabilities, 'dream' jobs: approaching the professional world	Professional and private life planning: attuning and exploring	Professional and private life planning: exploring, deciding, realizing / company internship
Development, planning, production and judgement of one-piece products	Development, planning, production and judgement of several-multiple-piece products	Creation of complex projects/ judgement of technical innovation

Source: https://bildungsserver.berlin-brandenburg.de.

In PB some of the materials mentioned in Chapter 4.1. are accidentally used, but it is not statutory. In summary, one can say that there is no continuous, regular, sustainable financial education in German schools.

5 Financial literacy of young people in Poland and Germany. Survey results

5.1 Research method

Aleksandra Grzesiuk

Research project: “Education and financial literacy in Germany and in Poland. Transfer of knowledge, analysis and recommendations” was carried out between 2016 and 2017 as part of a grant from the Polish-German Foundation for Science (No. 2017–03) implemented by the University of Szczecin, Poland (project leader), Society for Promotion of Financial Education in Gdynia, Poland and social science research institute GP Forschungsgruppe – Institut für Grundlagen und Programmforschung from Berlin, Germany.

A number of research methods were used to diagnose the state of knowledge and financial awareness of young Poles and Germans, including:
- literature analysis,
- review of the results of other studies carried out in similar areas,
- analysis of documents regarding educational programs,
- the Delphi method,
- interviews with teachers,
- a questionnaire survey (questionnaire given out by teachers and completed by young people at school).

A single method can never adequately shed light on a phenomenon. Using multiple methods can help facilitate deeper understanding. That is why triangulation of research methods was introduced in the reported research project. Generally, triangulation involves using multiple data sources in an investigation to produce understanding. However the main focus of the research in the reported project of financial literacy and one of the important source of information for recommendations were data obtained as part of the primary survey – questionnaire survey.

As presented in Chapter 2, the currently suggested form of reaching young respondents is the use of the Internet (online research). Originally, it was considered to use the online questionnaire for financial literacy research in Poland and Germany. However, as a result of consultations with experts, the method has been changed to the form of traditional questionnaire distributed by the teacher at the school (classrooms surveys). The conducted research required young people to answer questions that could be perceived by young respondents as “uninteresting”, “verifying their knowledge and therefore school”. In turn, the Internet is perceived by these young people as a private space. As a result of expert panel discussion at methodology level stage of a research process, it appeared that this perception was in contradiction with the nature of the

https://doi.org/10.1515/9783110636956-005

financial literacy questionnaire. And this, in turn, could significantly impede research and result in a low return rate. That is why it was decided to use the PAPI method, to distribute questionnaires through schools and teachers who were asked to hand out surveys to students. The questionnaire consisted of 19 questions, including 18 closed questions and one open question. Content areas in the questionnaire include: knowledge regarding financial matters, skills, attitudes, behaviours, information demand.

Originally, the questionnaire was prepared in English and then translated into Polish and into German. At the stage of translation, the back-translation technique was used to achieve different language versions of the instrument that are conceptually equivalent in each of the target countries. Then the questionnaire was pretested on the target group to achieve a high level of communication with the respondents. The primary survey was carried out in Poland and in Germany in the fourth quarter of 2017. The questionnaire was identical in the surveys conducted in Poland and Germany. However, the method of sampling was different. As part of consultations with experts in research methodology and statistics, it was found that differences in the method of sample selection do not negate the possibility of using comparative analysis of results obtained in Poland and Germany.

In Poland, over 2500 questionnaires were sent to 24 schools in 20 cities in 11 voivodeships (see Table 5.1). A nationwide sample of 2070 completed questionnaires returned back (82.8% response rate). Types of schools that took part in the study:
- three technical schools (17.6%),
- six high schools (35.4%),
- eight vocational schools (47%).

Table 5.1: Fieldwork protocol, Poland.

Voivodeships – administrative subdivisions	Number of schools participating in the study from the region
West Pomerania Voivodeship	7
Warmian-Masurian Voivodeship	3
Silesia Voivodeship	1
Wielkopolska Voivodeship	3
Kuyavian-Pomeranian Voivodeship	2
Pomeranian Voivodeship	1
Podkarpackie Voivodeship	3
Lesser Poland Voivodeship	1
Lublin Voivodeship	1
Lower Silesia Voivodeship	1
Lubuskie Voivodeship	1

Source: The Authors.

The very high degree of involvement and favor of high schools in Poland to participate in the project resulted from the relations previously established by Society for

Promotion of Financial Education in Gdynia, Poland. Thanks to this, it was possible to conduct nationwide surveys and a very high rate of return of surveys. The research sample is representative and allows inference regarding the general population. Finally, 1920 questionnaires from Poland were subjected to statistical analysis. Statistical analysis was made using the Statistica package (StatSoft). Selected statistical tools, including, among other things, the correlation coefficient of Pearson were used for the correlation calculations. The respondents were not adults and therefore their participation in research requires special care. Information that was of interest in the research was not of a sensitive nature and did not require obtaining special consents from the founding bodies of schools and parents. In fact, research in Poland required mainly reaching out to schools and through mediation – to the teachers who were asked to give questionnaires to students during the lesson and then to collect them and send them back to the research institution. Another situation took place in Germany. Regulations regarding conducting tests among students in schools require that the school's governing body and parents' consent to participation in such studies (see Table 5.2). As the formal regulations and authors' own experience show, it is much more difficult to conduct student research in Germany than in Poland. It is not only the schools governing body and the parents conference which have to give the consent for the conduction of the study but the explicit consent by each single student has to be given as well. And before starting, the researcher had to receive the Ministry of School and Culture permission to approach the schools.

Table 5.2: Study protocol, Germany.

Step 1	– Permission by the Ministry for Education Brandenburg – Selection of schools
Step 2	– Acceptance by the school director – Acceptance by the school conference
Step 3	– Permission by the parents – Willingness of the students

Source: The Authors.

The need to obtain the school's governing body and parental consent for the participation of students in research significantly reduced the size of the German research sample in comparison with the size of Polish sample. The very fact of obtaining school's governing body and parental approval before the respondents filled out the survey at the school significantly hindered primary research, limited sample size and territorial coverage of research in Germany. Finally, 327 questionnaires from Germany were subjected to statistical analysis (see Table 5.3). It was not the aim of the project to make a big study about financial literacy because of limited funds

Table 5.3: Fieldwork protocol, Germany.

Type of school	City	School's governing body	No of questionnaires sent	No of questionnaires received back	Return rate	Rejection
Secondary I	Berlin	municipality	97	78	80.4%	–
Gymnasium	Panketal	private	33	20	60.6%	–
Secondary II	Zepernick	municipality	–	–	–	parents
Gymnasium	Wandlitz	district	–	–	–	teachers
Gymnasium	Bernau	district	100	62	62%	–
Secondary I	Bernau	municipality	99	29	29.3%	–
Gymnasium	Bernau	district	–	–	–	parents
Gymnasium	Eberswalde	district	103	62	60.2%	–
Secondary I	Eberswalde	district	90	64	71.1%	–
Secondary I	Eberswalde	district	90	12	13.3%	–
Gymnasium	Eberswalde	private	–	–	–	School's governing body
Total: 11 schools	Total: 6 cities		Total: 612	Total: 327	53.4%	

Source: The Authors.

and budget resources. The original intention was to conduct a pilot study in both countries – Poland and Germany. And on such assumptions the project was based. During the implementation of primary research, much broader research has been carried out in Poland, which has the characteristics of basic research and due to the scope of the research sample, their results may be generalized to the general population. Regarding research in Germany, their scope is consistent with the original assumptions of the pilot study.

As far as the age structure of the sample is concerned, the target group of respondents were people who, at the time of testing, were under 16 but were also at least 14 years of age. In practice, this meant people born in 2001–2002, and so did the age structure of the research sample (see Figure 5.1). Some differentiation in the age of respondents between research in Poland and Germany resulted from the structure of the education system. In Germany, students of the 10th class were tested (people born mainly in 2002, however, due to the specificity of the education system in Germany, this level could also have been born in 2001).

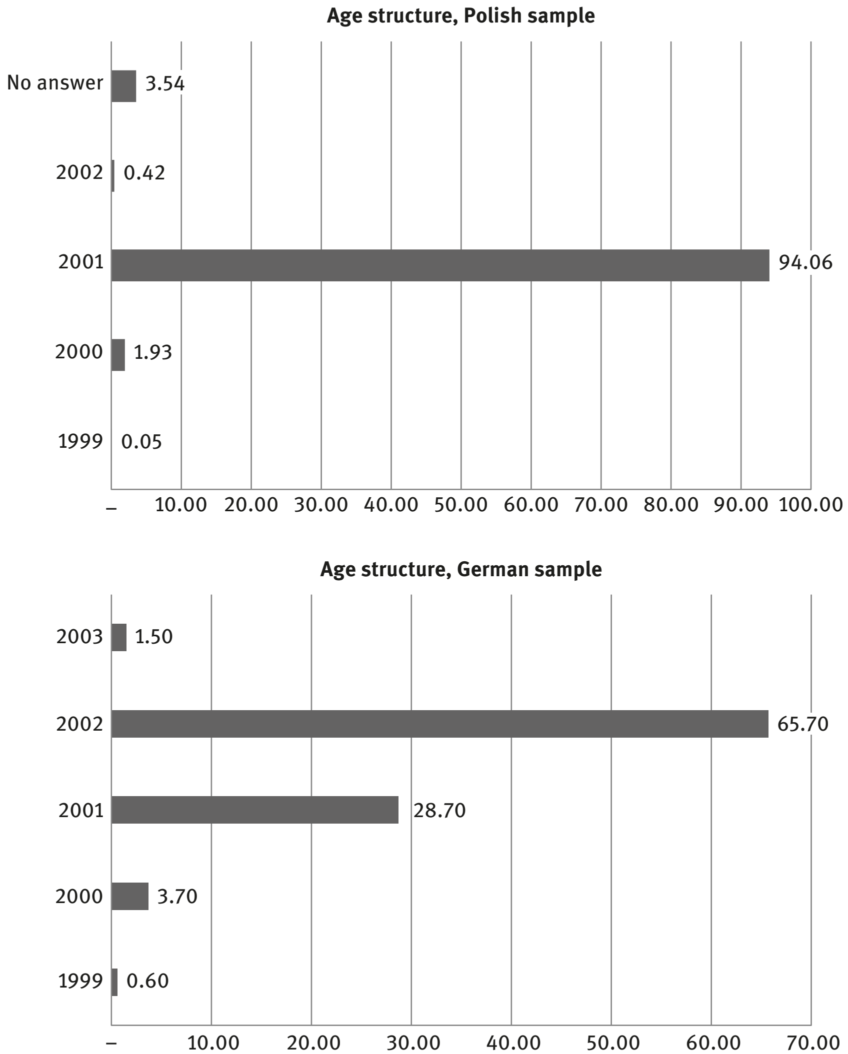

Figure 5.1: Age structure – Polish and German samples
Source: The Authors, research results.

The gender structure of the research sample in Poland is adequate to the structure of the general population. In the sample, 52.7% were women and 46.6% were men (no answer: 0.68%). The gender structure of the surveyed population in Germany included 52.3% of men and 47.7% of women. Despite slight differences in the structure of the sample, the primary research carried out in Poland and Germany as far as the research method is concerned, enable comparative assessment and inference regarding the subject of financial education in the two countries studied.

5.2 Research results – Polish sample

5.2.1 Financial: knowledge, attitudes and skills of young people. Result of survey

Beata Świecka

Financial knowledge

In the original study, financial literary elements were examined, including:
- financial knowledge
- financial skills
- financial attitude
- financial behaviour
- financial information demand

Financial knowledge was examined by presenting financial concepts that the student was supposed to mark as true and false. The study was 12 several statements in the use of money, which is false or true in the opinion. The students have average knowledge of finance. More than 20% do not know what a balance sheet is, but almost 14.1% do not know what a budget is. Payments cards is a popular and good know instrument to paying for goods and services, what show a survey, where 64% see a difference between credit and debit cards, and almost 25% almost do not know what the debit cards are and distinguish them from the credit cards. It is no wonder that young people do not know such concepts, because at school they could not meet these concepts earlier. The survey was carried out, as the youth were after a few lessons from the subject Fundamentals of Entrepreneurship and the core curriculum could not yet move all of these concepts. The research shows that parents play an important role in raising their financial knowledge, who often have a problem with distinguishing a debit card from a credit card who, without running a business, does not know what a balance sheet is, etc. Almost 70% 15-years students know what financial planning is and 77.3% think that finance can be useful to them in their everyday life, that is knowledge, which is indispensable in the concept of everyday decisions, including consumer and purchasing decisions, that in order to have money, it is necessary to manage them, and not just spend them. Only 9.8% have knowledge of the bank account and believe that the bank accounts may only be owned by an adult. This may indicate that they do not use the bank account themselves. Having an account is the first level in banking. If the consumer, in this case, the young consumers does not have known about the account, then they will not have the more knowledge about payment cards or electronic banking. New technologies and information innovations will not change the lack of knowledge about finances. The confirmation of this statement is the fact that 8.9% don't believe that payment cards are only for withdrawing cash at an ATM. Payment cards are a common form of payment in Poland. They were introduced for individuals in 1993, when Bank Pekao SA issue classic. Since then, the card market has changed very much. In mid-2018, there were over 39 million cards on the Polish market, of which 90% are cards for individuals, 78% of which are debit cards, and only 14% are credit cards. Youth know and use it, or see such a need. Often they learn about such opportunities from their parents, less often than schools. The parent's role should not end with financial security for his or her children – it is also worth teaching the child to manage the financial resources by creating a child account or a youth account. Legal regulations in Poland allow a child to have a bank account from the age of 13. Such a person then achieves the so-called limited legal capacity, but the deposit remains under the supervision of a statutory representative (parent or legal guardian). An exception to the examples discussed is the offer of Bank PKO BP, which has prepared a special Junior offer – targeted at children who are under the age of 13. Such an account is a "part" of the parent's savings and settlement account, which has full control over the funds on this account. Having an account by young people has educational values. Young people learn how to use a payment card, make a transfer, check the status of their finances by checking the account balance, withdraw funds from an ATM, or use the BLIK service. In other words, learn the practical things necessary for functioning in today's society.

If there is a lack of basic knowledge about the bank account, the more knowledge about mobile payments is not available, using mobile phones. The survey shows that 85.7% have knowledge that there is a possibility to pay for goods and services by mobile phone. It would seem that the young people who use their mobile phones on a daily basis should know many functions that telephone has, not limited only to text messages, the use of the Internet, mainly Facebook, but also to payments using the telephone. (see Table 5.4.). Changes in the functionality of mobile devices have opened a huge spectrum of possibilities for their owners. One of them is the possibility of making payments.

Table 5.4: Financial knowledge – Polish sample (%).

Knowledge statements	False (%)	True (%)	Do not know (%)
Balance sheet is a statement of costs and revenues for a given period.	5.5	73.6	20.3
Budget is a financial plan containing a statement of income and expenditure.	25.7	59.8	14.1
The debit card works just like a credit card.	64	10.3	24.9
Income levels affect future retirement pension.	9.5	78.2	11.7
Bank accounts may only be owned by an adult.	80.8	9.8	8.9
Financial planning is finding the best ways to use your money.	11.4	68.6	19.8
Financial knowledge is only needed for those who work in financial institutions.	77.3	8.6	14.0
Overdraft is the amount that an account holder can debit at a given bank.	10.9	59.3	29.5
Visa/MasterCard are only for withdrawing cash from an ATM.	75.4	8.9	15.3
Only adults can use the online banking services.	57.1	20.1	22.5
You can pay for goods and services by mobile phone.	5.2	85.7	8.5
Bitcoin is money you can use to pay online.	6.2	55.7	37.6

Source: Author's own work.

Mobile payments are a response to the market demand and the solution to the problem of low-value payments, which were a problem when paying with payment cards. The idea was so far advanced that mobile devices, especially mobile phones, developed much more broadly than just low-value transactions. Mobile phones have changed the face of not only telecommunications and due to the fact that they are often used by young people with a little financial knowledge could be a great tool for making payments especially in the group of young people. Mobile phones are no longer used only for contact, but are universal devices, portable computers that perform the following functions (Świecka, 2015):

1. Communication – to conduct calls, send sms, mms, use WhatsApp
2. Time management: alarm clock, notebook, calculator, and more
3. Entertainment – games, music, radio, MP3 player
4. Usable – dictaphone, calculator, GPS, camera or camera
5. Internet access – use of websites
6. Financial – enabling an application that allows you to use the bank over the phone
7. Paying – use of the phone as an instrument to make payments for goods and services used to pay for goods and services

Modern solutions, including the use of mobile devices, are characteristic of the Z generation, which since birth is familiar with the new technology and is a natural environment for them. Both electronic banking, especially online and mobile, should be the best environment for using the services of Generation Z to which respondents covered by the primary survey belong. Generation Z with any doubt on the Internet, which usually has constant access. He can look, he knows how to move about it, there are no problems with virtual communication. Often, these people have many friends from the far corners of the world, because thanks to the network, barriers do not exist. In addition, generation Z are more eager than other generations into discussion on forums or social media. Generation Z grew up in prosperity, however, on the other hand it is one of the most divided generations because it is clearly visible from its representatives, what their home situation looks like, what their parents gave them, how their financial situation is presented, how they have access to culture, development and education.

In the own survey, students also had the opportunity to show whether their financial knowledge (about money, management, saving, borrowing, banks, etc.), taken out of home and from school, is sufficient to manage their finances on their own (see Figure 5.2). The market shows that in the opinion of respondents, financial knowledge is in 42.5% sufficient, of which 7.1% is definitely sufficient, and 35.4% is sufficient. Only 6.3% stated that the level of knowledge is insufficient. Self-evaluation about your own financial knowledge is the reverse of your actual financial knowledge. So the knowledge is minimal, but self-evaluation about the knowledge is high. So the respondents think they know a lot, but the practice says something completely different. This is a characteristic feature of the Z generation.

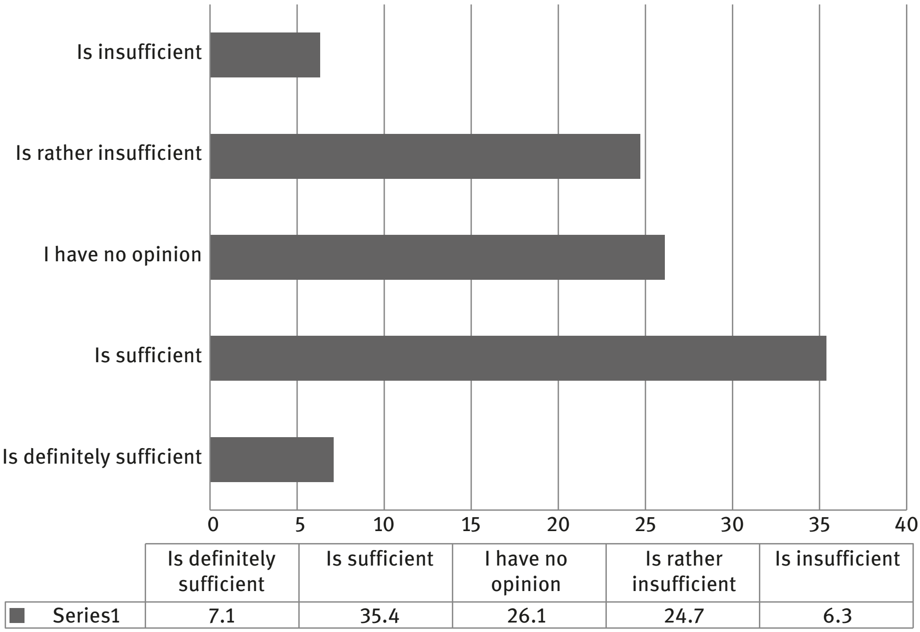

Figure 5.2: Subjective student opinion about their financial knowledge, get at home and school is enough to manage your own finances.
Source: own survey.

Financial skills

If knowledge is small, the more skills will be at an equally low level. In our own research, self-assignment of financial skills was examined, which shows that young people have a large ability to withdraw money from an ATM (87.4%). This skill and the ability to pay by card (85.3%) are basic. Slightly worse fall in payments by phone, where 33.2% think that they cannot, or open an account on the Internet, where almost 43% do not know how to do it (see Table 5.5). that this is a declarative skill, which means that they may think that they know how to pay by phone, but have never done it, as well as setting up an account on the Internet.

Table 5.5: Self-perceived financial skills (in %).

Do you know. . .	**Yes (%)**	**No (%)**
how to create a bank account online?	61.0	38.0
how to pay by phone while shopping?	66.0	33.2
how to pay by Visa/MasterCard?	85.3	13.7
how to withdraw money from an ATM?	87.4	11.5

Source: own survey.

A supplement to own survey are the results of secondary research: *Financial activity of children and youth in Poland* (2014), from which it appears that only 23% of people in upper secondary school have an account and 21% use only mobile banking. Youth people have their own money, both earned and received. The amount of pocket money changes with age. In primary school, pocket money is PLN 87 (EUR 20), in junior high school PLN 127 (EUR 30) and in secondary school PLN 157 (EUR 43). Data from primary and secondary research indicate that it is a small segment of the group that uses the opportunities offered by the financial market. this indicates a great need for financial education. A young people should gradually acquire new knowledge and financial skills that will allow him to "embrace personal finances". In the case when the first steps in the financial sphere are just beginning, the plan of introducing new habits and financial skills may be extremely useful. It should be noted that the state of our finances depends on three elements:

1. Abilities to earn money and / or receive money from family – decide how much money you earn / possess.
2. Skills to manage accumulated funds – it determines what you spend money on and in what quantities.
3. Competences to multiply capital (investing and reinvesting) – affects the property you have.

Each of the above elements has a significant impact on the financial situation. It is extremely important to develop your financial knowledge and financial skills.

5.2.2 Financial attitudes, behaviour and financial information demand. Result of survey

Aleksandra Grzesiuk

Financial Attitudes

The research shows that the subject of money and talk about money are not taboo for young Poles (see Table 5.6). As many as 70% of respondents claim that financial matters do not seem too complicated for them. They are generally not troubled by financial worries. Although taking into account the age of the respondents (15–16 years) they perform rather simple financial operations, the same positive attitude to financial matters should be considered a good prognosis for the future. Of course, such an attitude may also result in reckless behaviour – "it is simple so I do not have to think more deeply about the financial aspects of the transaction". And this approach may, with more complex operations such as credit, result in imprudent financial decisions. On the basis of the conducted research, conclusions regarding such attitudes are not possible. However, the responsibility of adults (and educational system in the country) should – at the stage of education and upbringing – sensitize young people and shape responsible attitudes towards financial matters. Young people should be aware that financial

Table 5.6: Money attitudes.

	Agree very much	Agree	Do not agree	Do not agree at all
When we talk about money I get bad mood.	3.59	13.02	57.81	25.10
If today I will withhold some expenses and save, I will be better in the future.	20.68	55.10	19.90	3.96
I spend often more money than I intended.	16.67	37.50	36.30	9.22
When I have savings, I spend them soon to realize my wishes.	11.56	32.76	38.18	17.40
I often buy things without thinking whether I can afford them or not.	5.05	17.60	50.57	26.61
I have the feeling that money and finances are too complicated for me.	5.05	24.74	53.39	16.82
I know at the moment how much money I have got in my wallet.	45.83	38.70	11.20	4.17
I know at the moment how much money I have on my bank account.	33.85	33.13	18.44	13.28
I think I am capable of managing my money.	20.83	62.55	14.01	2.34
When I have money, I should not hesitate to flaunt it.	5.42	11.25	46.61	36.09
I am (actually) troubled by financial worries.	5.83	22.76	48.75	22.34
In my life everything will be somehow put in order.	28.65	50.21	11.61	9.06

Source: own survey.

matters are of varying complexity, and the more complex, long-term ones require special attention and consideration when making financial decisions.

However, young Poles declare awareness of the necessity of saving. As many as 76% of respondents understand that refraining from current consumption and postponing (saving) money in this way may mean a better future for them. If we confront these attitudes with declarations regarding real behaviour (30% of respondents declared that they regularly save, and almost 40% – save from time to time), these attitudes indicate high awareness of saving. Young Poles show quite reasonable attitudes about their spending options. They declare that during the purchase of various products they rather wonder if they can afford such a purchase. Over 77% of respondents declare that they do not buy things that they cannot afford. Only 17% of respondents said that if they have money, they should not hesitate to flaunt it. The vast majority of respondents were in favour of restraint to show in public that they have money. Such a result is interesting because it is widely believed that the young generation is very susceptible to the so-called consumer symbols of social status, and thus – de facto – to flaunting the fact of having money. The research results show that young people control their cash well, although the difference between the awareness of "how much money is in my portfolio" (84.5% of respondents declare that they know) and "How much money do I have in my account" (66%) is clearly visible. This difference may be due to the fact that many respondents do not have a bank account yet. In general, it should be stated that the respondents show great self-satisfaction in terms of their ability to deal with their financial affairs. Over 83% think that they manage their money.

Financial Behaviour

The results of the conducted research negatively verify the hypothesis that young people are unprotected, impatient and therefore cannot save. As many as 30.5% of respondents declared that it saves regularly and another 40,5% – that it saves, though irregularly (see Table 5.7). The vast majority of respondents (over 70%) keep their savings at home, which indicates a low level of financial inclusion. About 36% of respondents declared that they kept their savings in the bank on their own account and another 8% – that they were on their parents' account. These results coincide with the results of the research conducted by the National Bank of Poland (NBP 2014), which show that 32% of secondary school students store their savings on a bank account and 52% hold them at home. Because the NBP studies included a wider group of respondents in terms of age (young people from primary, middle and high school), this enabled observation of possible changes in behaviour over time. Students usually keep savings at home, but the older they are, the more often they keep money in a different way. The percentage of people whose savings are kept by parents is also falling with age: at home or on their account. With age, the number of students who store their savings in the bank is growing, but above all they simply keep them on the account (4% of pupils finishing primary school, 15% of middle school students and 32% of students in the last but one class of high school), not bank deposit (1% junior high school students and 4% high

Table 5.7: Savings.

Category	Total	Male	Female
Regular savings	30.5%	26.3%	34.3%
Savings for a specific target (e.g. bicycle, computer, driving licence, etc.)	10.8%	11.4%	10.3%
Irregular savings, now and then	40.5%	43.9%	37.5%
No savings. "I do not need savings"	7.2%	8.2%	6.2%
No savings. "I do not have left money for savings"	4.5%	3.4%	5.5%
No savings at all	6.5%	6.8%	6.2%

Source: own survey.

school students). The results indicate a weak correlation between gender and attitudes towards saving (C-Pearson: 0,11). Women more often declare regular saving (34.3%) than men (26.3%). Men, on the other hand, declare irregular saving more often (43.9%) than women (37.5%).

Young Poles are not indebted (see Figure 5.3). As it was presented in the chart, 83.6% of respondents declare that they do not have any debts. A little over 9% admit that they owe money to friends and a little over 5% have a family debt. The survey indicate a relationship between gender and indebtedness. Young men are relatively more often in debt than women (p = 0,000; C-Pearson: 0,076). These results correspond to the previously presented results regarding budget management skills. Young Poles declared that they do not buy things that they cannot afford. At the same time, it is worth referring to the declaration regarding information needs. Over 80% of respondents declared that they need information about opportunities for earning money. This allows us to draw conclusions that young Poles show interest in actively searching for the opportunity to earn money to meet their needs. It corresponds to the results of research obtained by the National Bank of Poland. Money from irregular, casual work has 23% of students in the second-to-last grade of high school (NBP 2014).

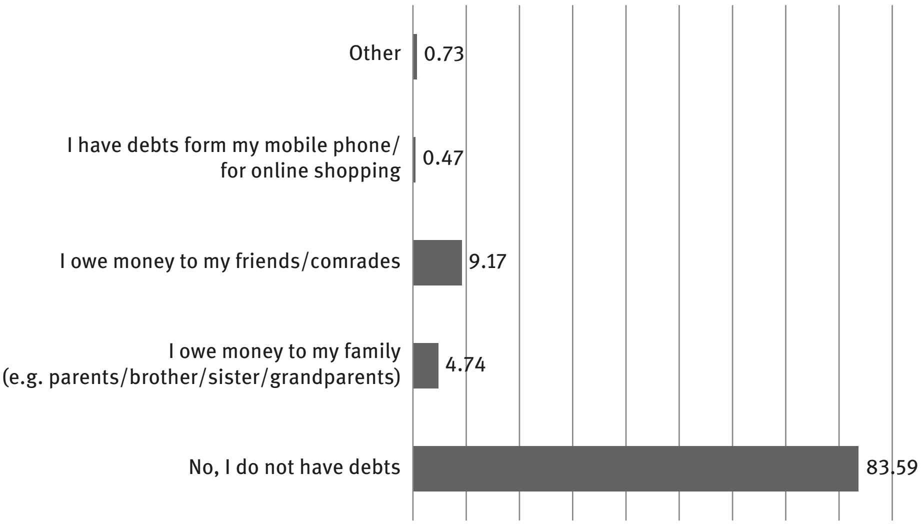

Figure 5.3: Debts.
Source: own survey.

Interpreting these results, it should be mentioned that the research covered underage youth (about 16 years old) who – in Poland – still lives with their parents or guardians. In fact, the respondents did not run an independent household. Therefore, probably their financial decisions are of no primary importance for the family's existence. This is also reflected in the expenditures of the examined youth (see Figure 5.4), Most spend

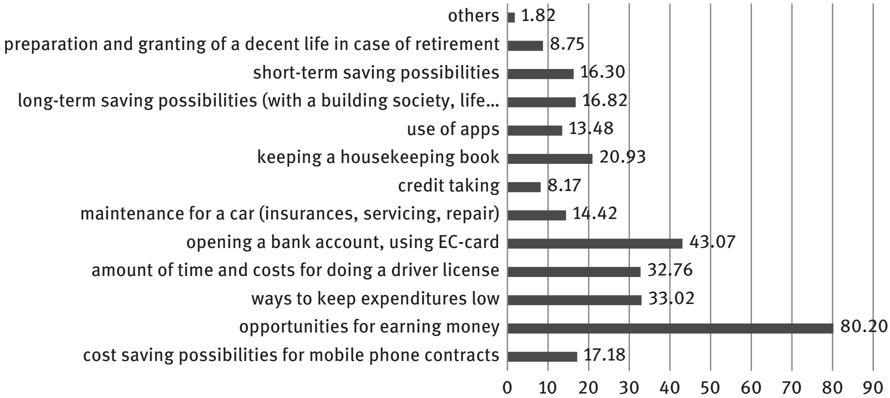

Figure 5.4: Most important consumption categories (in %).
Source: own survey.

money on their own needs, but these are not basic needs. Clothing (over 57% of respondents), sweets, snacks and drinks (over 46% of respondents) and various forms of arrivals and hobbies are the basic categories of spending of young people.

Financial information demand

The research results presented above indicate quite reasonable financial behaviour of young Poles. It is clearly visible that the family plays an important role. Respondents declared that if they had financial problems, the family would be the first to ask for help (see Figure 5.5). The results also indicate the marginal role of the school (teachers) in solving students' problems. Young people would not turn to the teacher (school) for advice if they got into financial problems. Such results indicate the low authority of the school. If the school were to play a greater role in the financial education, teachers should be seen by students as the authorities in this field. Teachers should also have an appropriate financial expertise and the ability to communicate this knowledge. Research results indicate statistically significant differentiated behaviours of young men and women when it comes to who they would turn to in case of financial problems. Young men relatively often do not turn to anyone. Women tend to seek help from other people. ($p = 0,000$; C-Pearson: 0,09). Women would be more likely to ask their family for help. Less often, young men declare this behaviour ($p = 0,000$; C-Pearson: 0,11).

The survey was focused on financial literacy of young Poles and therefore we asked them about their skills and knowledge in the field of finance (see Figure 5.6). The results showed just declared knowledge and skills but indicate its reliably low level. That is why we were curious if the respondents feel the need to expand their knowledge and skills. And if so, in what areas, which kind

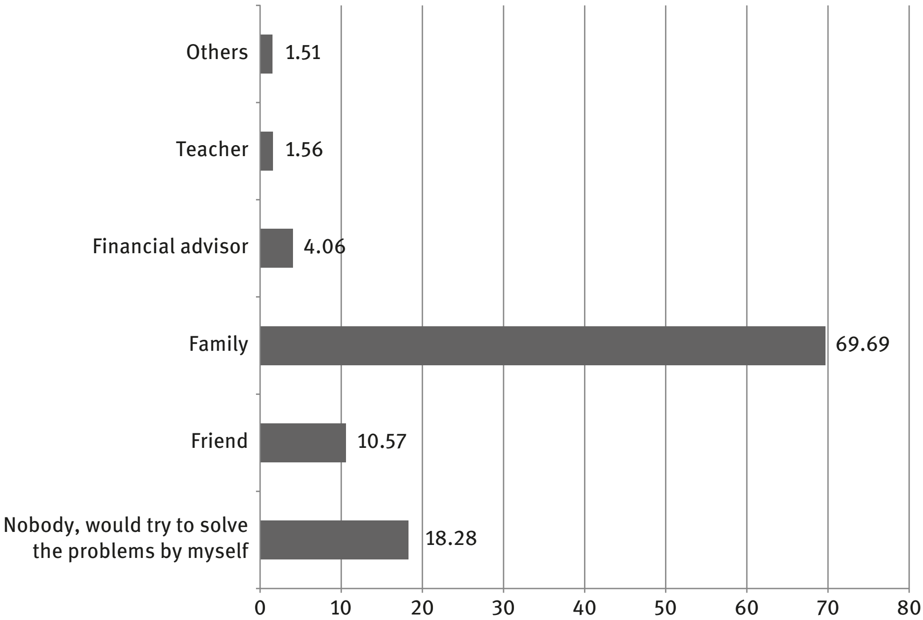

Figure 5.5: Whom would you ask for advice if you had financial problems?
Source: own survey.

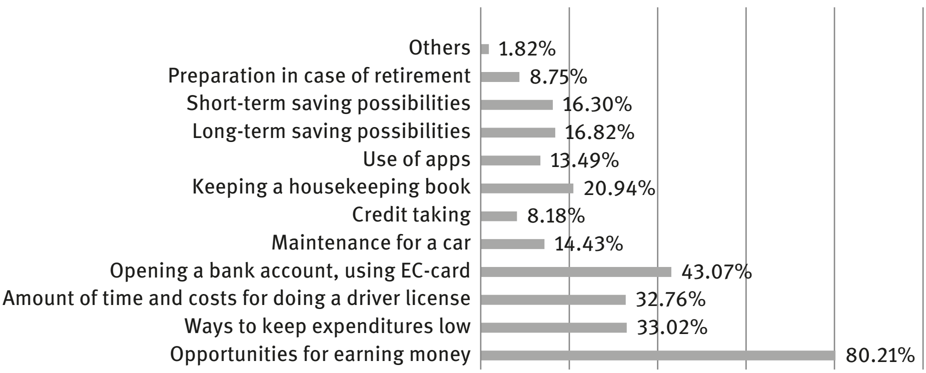

Figure 5.6: Financial information needs (in %).
Source: own survey.

of information they need in their age most. Opportunities for earning money is a subject in which each young Poles are interested most (80.2%). This information is also expected by young Germans (See Chapter 5.3). However, there is a clear disproportion: 80.2% of Poles declare such information needs to 55.4% of young Germans. The results show a weak but statistically significant relationship between seeking information about the possibility of earning money and gender (p = 0,02; C-Pearson: 0,05). Young women in Poland are more likely to find such information than men. On second place, information about opening a bank account, using an EC card and ways to keep expenditures low. One-third of the students want to get more information about the amount of time and costs for doing a driving license. It is interesting to note that exactly the same results were obtained in the study of young Germans (See Chapter 5.3).

5.3 Research results – German sample

Dieter Korczak

In 2005 the City of Munich started a school program of prevention of indebtedness and over-indebtedness. Substantial part of this project was a survey of students at vocational and secondary schools. To get some insight into the financial resources, competences and attitudes of the Munich students, a financial prevention study was conducted between 2005 and 2009. It covered 8,292 students aged 12 to 21 and was the biggest financial prevention study ever done in Germany. 6.746 respondents were students of vocational schools, and 1,546 students of secondary general education schools (Korczak, 2010). The questionnaire used in the Munich study served as a frame for the German-Polish study. As some of the questions have been directly taken from the Munich questionnaire the results of the 2018 study can be compared with the results of the Munich study. The 2018 survey covers five areas of financial education: financial knowledge, financial skills, financial attitudes, financial behavior, and financial information demands. The results of the study regarding these five areas are presented below.

Financial knowledge

In the examined age group the main source of financial information is the family (93%). Additional sources are the internet (24.8%), and friends (19.3%). Male students get information from friends more often (21.6%) than female students (16.7%). The school plays a minor role as an information source. Only 6.1% of the respondents get information about financial matters from school. Obviously, the information sources (especially the family) provide the students with a good basic financial knowledge. More than 80% of the respondents know that payments can be done by mobile phones and that even youth can have a bank account. The majority of the students know that income levels affect the future retirement pension, that financial planning is useful and that financial knowledge should not be reserved for staff of financial institutions.

Students even have knowledge about quite new subject like bitcoins. 60% of the respondents know that this currency can be used for online payments. However, a gender effect was observed. This knowledge is more common in males (73.1%) than in females (47.4%). Further financial education is needed in some areas of finance, namely these which – due to the age – are not yet really available for the students. Approximately 50% of the students are not precisely informed about the functions of credit cards and balance sheets. In particular, the majority of girls (61.5%) do not know what a balance sheet is (while only 34.5% of boys do not have this knowledge). The respondents are generally uncertain whether only adults can use online banking services. They also don't know the functions of overdraft and debit cards. Again a disproportion between genders could be observed regarding the knowledge about function of a debit card. Girls (75.6%) are more uncertain than boys (61.4%) which is the function of a debit card. A surprising result is that 58% of the students evaluate as false the statement "Budget is a financial plan containing a statement of revenue and expenditure" (see Table 5.8).

Table 5.8: Financial knowledge – German sample (%).

Knowledge statements	False	True	don't know
Balance sheet is a statement of costs and revenues for a given period	2.4	48	47.4
Budget is a financial plan containing a statement of income and expenditure	58.1	21.1	18.7
The debit card works just like a credit card	24.2	5.8	68.2
Income levels affect future retirement pension	12.2	74	11.9
Bank accounts may only be owned by an adult	81.7	10.4	7.0
Financial planning is finding the best way to use your money	8.3	68.2	21.7
Financial knowledge is only needed for those who work in financial institutions	67.3	3.4	27.5
Overdraft is the amount that an account holder can debit at a given bank.	15.0	31.8	51.4
Visa/MasterCard are only for withdrawing cash at an ATM	52.2	16.2	29.4
Only adults can use the online banking services	40.1	38.5	19.3
You can pay for goods and services by mobile phone	5.2	84.7	9.5
Bitcoin is money which can be used for online payments	9.8	60.9	28.4

Source: Authors' own work.

Do these results mean that the students get at home and in school enough financial knowledge to manage their own finances? Every second student (53.5%) is convinced that their financial education is sufficient. There is a slight difference between male students (58.5%) and female students (48.1%) in this respect. In sum, 23% of the respondents say they do not know whether their financial knowledge is sufficient or not. 26% of girls and 20% of boys regard their financial education as insufficient.

Financial skills

Each student has some pocket money for their own purposes. 78.6% get regularly their pocket money, 11.3% earn money by doing jobs, and 18.7% receive pocket money but not on a regular basis. The amount of pocket money which the students get varies from 3 EUR up to 200 EUR per month. Peaks in the distribution are 20 EUR (23%), 30 EUR (13.6%), 40 EUR (8.9%), and 50 EUR (13.6%). The median is 30 EUR. The amount of money given to students quite strictly follows the recommendation of the German Saving Banks Association (DGSV) which for the 16 years old is roughly 3,750–4,500 EUR per month. The DGSV calculates that for extraordinary expenses the monthly budget needs are as follows: clothes/shoes 30–50 EUR, mobile phone/internet 10–20 EUR, school material 5–10 EUR, cosmetics/care 5–10 EUR, public transport 15–20 EUR and food subsidy 20–30 EUR (see Figure 5.7).

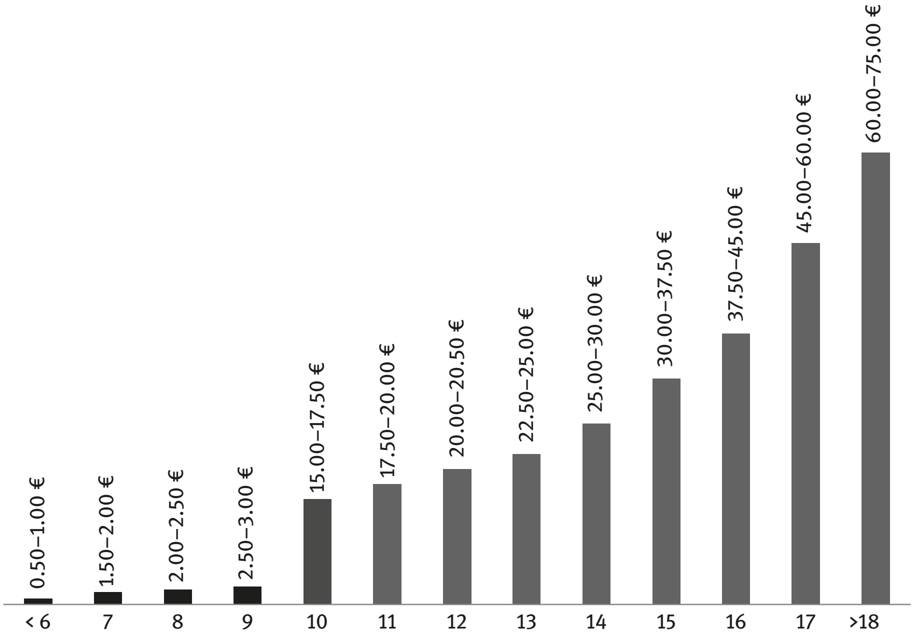

Figure 5.7: Pocket money.
Source: Langmeyer and Winklhofer (2014).

The pocket money of most of the students (61.8%) lasts until the end of the month. 22% are running short of money after the third week of the month and cannot afford any purchases anymore. For 10% the situation is even worse, as they have no money left already after two weeks. A very small number (1.8%) remain penniless after one week. The students' self-perception of their skills to handle their income has been assessed by the question: "How well, in your opinion, do you manage your own money?" The majority of respondents (86%) think they can manage their money well or very well. A small group (8.6%) says they are able to manage their income and do it as best as they can. 3% often have to borrow money, and an extremely small group

(1.2%) has money problems for most of the time (see Table 5.9). The same question was asked in the Munich Financial Prevention School Study in 2009. The 16 years old Munich students have more problems to manage their money but it has to be considered that Munich is an expensive capital city, while the Brandenburg survey was done in small cities with lower costs of living.

Table 5.9: Subjective perspective of own money management (%).

Category	Brandenburg Students 2018	Munich Students 2009
Very good money management	38.5	24.0
Good money management	47.7	43.0
Only just, as best as possible	8.6	24.0
Often borrow money	3.4	5.0
Most of the time money problems	1.2	3.0

Source: Korczak (2010).

It can be summarized that approximately 6–12% of the students, according to their self-perception, experience precarious financial situations as their money does not last until the end of the month and they have to borrow money or suffer money problems. We tried to gather additional information about the financial skills of the students asking them to declare whether they had the skills to perform specific financial transactions or usages. Very common is the skill to withdraw money from an ATM. Most of the students (89.6%) know how to do it. Some other skills are less common. Only 2/3 of respondents know how to pay by phone while shopping. Every second student knows how to pay by Visa or Mastercard. 2/3 do not know how to create a bank account online. These data reflect the present life experience of the students. The skill to withdraw money from an ATM or to pay by credit card is a common one and can be easily observed in and learned from the adult population. Online shopping using mobile phone is the typical cultural experience of current youth. Creating a bank account online needs more technical ability and legal authorization and is thus more abstract for the 16 years olds (see Table 5.10).

Table 5.10: Self-perceived financial skills (%).

Do you know. . .	Yes	NO
how to create a bank account online?	31.2	67.6
how to pay by phone while shopping?	66.4	32.7
how to pay by Visa/MasterCard?	51.4	47.7
how to withdraw money from an ATM?	89.6	9.5

Source: Authors' own work.

Financial attitudes

In the Munich school study of 2005–2009 the financial attitudes of the students were measured by an item battery. It contained 23 items judged on a Likert-type scale reaching from 1 = fully agree to 4 = fully disagree. The multivariate analysis revealed five attitude factors and five attitude clusters: the thrifty, the competent, the hedonist, the worried, and the pragmatist (Korczak, 2017). A reduced list of 13 statements was excerpted from this item battery and used in the German-Polish survey. The leading statements of the cluster are listed in Table 5.13. 1/3 of students agrees to a statement that describes thrift. In the Munich survey it was a recognizable higher percentage (54%). The Munich study tells that thrifty persons have learned this special attitude in their parents' home. Thrifty behavior in general can be seen as Brandenburgs students check regularly their bank accounts (53.5%) and save money for the future (69.1%). The biggest group of the students agrees to the statement that they feel competent to manage their money (70.9%) – very similar to the Munich study (70%). More male students (79.5%) than female students (61.6%) share this conviction(see Table 5.11).

Table 5.11: Money attitudes (%).

Statement	Total	Male	Female
I attach a lot of importance to thrift	36.7	33.3	40.4
I think I am capable to manage my money	70.9	79.5	61.6
In my life everything will be somehow put in order	57.8	56.2	59.6
When I have money I should not hesitate to flaunt it	22.0	25.8	17.9
I am (actually) troubled by financial worries	10.1	8.2	12.2

Source: Authors' own work.

Every second student has a pragmatic approach to life and believes that everything in their life will be put somehow in order. The percentage obtained in Brandenburg is nearly the same as in Munich, where this attitude was found in 51% of the students. In Munich 21% of the students have hedonistic feelings. They believe in Thorsten Veblen's idea of "conspicuous consumption". Slightly more male students (25.8%) represent this attitude than female students (17.9%). Ten percent are troubled by financial worries. This is remarkably less than in Munich (31%).

To know the self-perception of the students we asked them whether they regarded themselves as thrifty or frugal person. 43.4% of the students consider themselves as thrifty persons, 13.1% as frugal person. 43.1% are undecided, they might be neither thrifty nor frugal. This self-perception is in line with the attitudes the students chose in the statement list.

Financial behavior

Except for the fact that students in Munich are more thrift oriented the attitudes of the students from Brandenburg are quite similar. However, between the attitudes and behavior there can exist a big discrepancy. In order to obtain an indicator of their behavior we asked the students whether they are regularly saving money and whether they have debts. A big majority (85.5%) save money, though either mainly for a specific goal (39.4%) or on an irregular basis (26.9%). Male students more often save money regularly or for a specific goal (64.3%) than female students (51.9%). Those who do not save money have different reasons for this behavior. They either have not enough income for saving (3,1%) or do principally not save money (8%), or believe saving is not necessary (2.8%). Among the regular savers the boys save on average 3,687 EUR and the girls 2,587 EUR. The median is 20 EUR.

According to the results presented so far it is not surprising that 90% of the students do not have debts at present. Those with debts owe money to their family members or friends. Only three students (0.9%) of the sample have external debtors (e.g. telephone company). The results from the Munich school study show a slightly different picture. Only 56% of the students aged 16 from secondary I school save money (on average 32 EUR) and 8.4% have debts. The debtors are – like in Brandenburg – family members (5%) or friends (3%). Only 0.4% have external debtors. 50% of the indebted students have small debts ranging between 20 and 150 EUR. The situation is different for the 16 year old students of vocational schools. In the German educational system students of vocational schools receive training allowance between 689 and 751 EUR in the first training year. Thus students from vocational school can spend more money and more easily can get into debts. 70% of the 16 year olds from the vocational schools say that they save money. In total 16.6% of the students from vocational schools have debts, 2.6% more than 500 EUR. In the scope of our interest in this study was also spending behavior, but it was hard to measure. The difficulties depend mainly on the need to record every single expenditure. Regarding the lifestyle of students this is a difficult task. In order to measure approximately the individual expenditure patterns the following question was put in the survey: "If you get money for what are you spending it at first?" Nine different answer categories were listed and the students could select three most important consumption categories. Clear gender specific preferences were observed. The top three categories of male student expenditures were electronic devices/computer games, saving and leisure time activities. The girls have different priorities: clothes, cosmetics and saving. 40% of both gender spend money on sweets or snacks. A small group of the boys (8.8%) spend the money on alcohol, a small group of the girls on cigarettes (5.1%) (see Table 5.12).

Financial information demand

As can be seen many students have knowledge deficits in the area of online banking, the use of overdrafts, credit card payments and budget/financial planning. But there might be additionally other knowledge deficit areas which have not yet been covered by the questionnaire. To fill this information gap the students have been asked which kind of information they need at their age most. On the ground of other

Table 5.12: Most important consumption categories (%).

Consumption categories	Total	Male	Female
Clothes	54.1	41.5	67.9
Savings	49.5	53.2	45.5
Leisure time activities	46.5	48.0	44.9
Sweets, snacks	40.1	40.9	39.1
Electronic devices, computer games	37.0	60.8	10.9
Cosmetics	22.9	0.6	47.4
Alcohol	6.1	8.8	3.2
Cigarettes	3.7	2.3	5.1
Other	8.9	4.7	13.5

Source: Authors' own work.

studies and the available prevention programs or leaflets a list of twelve possible areas was selected. This list covers income, savings, expenditures, services and behavior. On average the students chose three categories in which they needed more information. Every second boy was interested in the opportunities for earning money, the girls even more (60.9%). Second was the information about opening a bank account, using an EC card and the amount of time necessary to obtain a driving license and its cost. One third of the students wanted to get more information about ways to keep expenditures low. Each fourth student was interested in being taught about cost saving possibilities for mobile phone contracts, the maintenance costs of a car and long-term saving possibilities or preparing a decent living in retirement. Only as little as 10% of the students were interested how to keep a housekeeping book (see Table 5.13).

Table 5.13: Need for financial information (%).

Category	Total	Male	Female
Opportunities for earning money	55.4	50.3	60.9
Opening a bank account, using EC-card	40.7	40.9	40.4
Amount of time and costs of obtaining a driving license	39.1	36.8	41.7
Ways to keep expenditures low	34.9	33.3	36.5
Cost saving possibilities for mobile phone contracts	27.2	25.7	28.8
Preparing a decent living in retirement	26.6	28.7	24.4
Maintenance of a car (insurances, servicing, repair)	26.3	28.7	23.7
Long-term saving possibilities (with a building society, life insurance etc.)	23.9	21.6	26.3
Short-term saving possibilities	17.1	19.9	14.1
Credit taking	13.5	18.1	8.3
Use of apps	12.5	15.2	9.6
Keeping a housekeeping book	9.8	7.6	12.2

Source: Authors' own work.

The information needs of the 16 year old Munich students are a little bit different. The most frequently declared needs concerned also the information about ways and possibilities to earn money by doing side jobs, the second most frequent ones concerned saving possibilities, e.g. by life insurance, saving contracts with a building society etc. Depending on age, the third was either information about cost traps on the internet or ways of cost reduction for smartphones. The interest for information on opening a bank account grew more or less continuously from the age of 14. The information on how to keep a housekeeping book was the last one (see Figure 5.8).

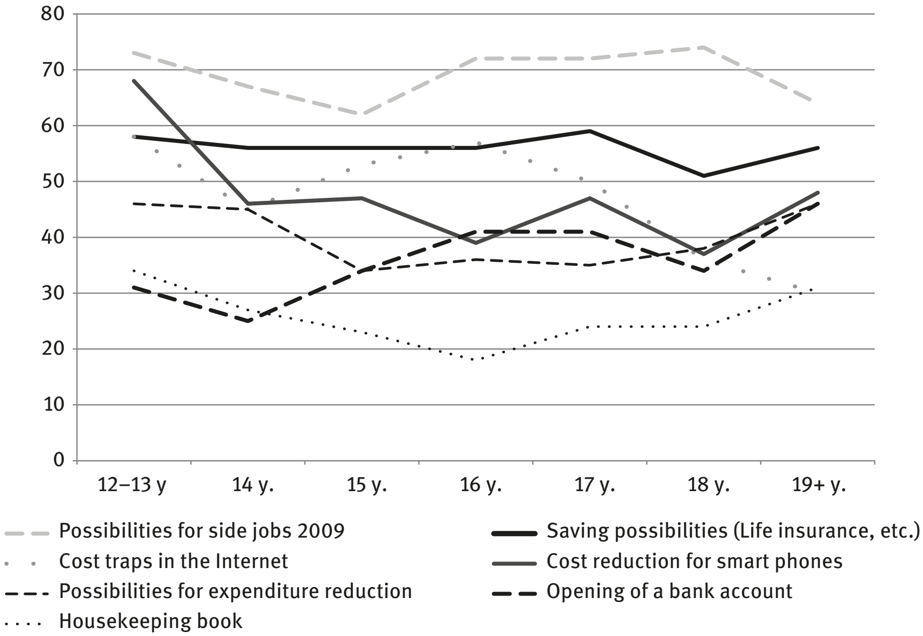

Figure 5.8: Information needed by age (%).
Source: Korczak (2010).

There are obviously a lot of subjects which could be taught at school. To get insight which kind of presentation would receive the highest interest, the students were asked what they expected from a financial lesson at school. The big majority (72.8%) wanted to get some practical knowledge. The second most mentioned need was that the financial subject should be illustrated by a large number of examples (46.2%). But this does not mean that the students lack interest in theory. 45% of the girls and 36% of the boys expected the teaching of financial theory. It seems to be self-evident that a mixture of theory and practice makes a school lesson interesting because only 36% of the students express explicitly the expectation that the lesson should be interesting.

Although there are quite precise ideas as to what a school lesson on financial subjects should transmit to the students, the school is not the first source of information in case of financial problems. Just one student of the whole sample would ask a teacher for advice. The big majority would ask family members – girls (86.5%) even more than boys (71.3%). A reasonable number of boys (24.6%, girls: 12.2%) would try to solve the problems themselves. A smaller group of students (13.8%) would turn to friends for advice. The diversity and complexity of financial products and services have extremely increased in the last decades. Getting transparency is difficult for youth and young adults, and even for their parents. They have to gain orientation in a world full of ambivalence where the small-print (whether in business, privacy and data protection rules, credit contracts, or mobile phone advertising) cannot be neglected, being part of normality of the everyday life. How should prevention programs react to these changing circumstances and challenges? Based on the data of the Munich and the Brandenburg school studies we can recommend that all the prevention activities, tools and material should be closely related to the lifestyle and needs of the specific age and gender groups.

The students have a very high opinion of their financial knowledge and managing capabilities. On the other hand they lack precise factual information. They express themselves the need for more information about opening (online) bank accounts, using credit cards or EC-cards, the possibilities of increasing their income and reducing expenditures, or financing a driving license, to name a few. It should be considered that the majority of students internalized the virtue of thrift in their parental home. As a result, only very small group of students have debts and, if so, they owe money to their parents and family members. They ask predominantly their parents for information and advice in case of financial problems. School and teachers do not play yet an important role in promoting financial knowledge in Germany. However, the soaring number of over-indebted young adults barely come of age points to an urgent need for a better financial education. The financial prevention activities should be closely linked to the evolving lifestyle of young adults. That means students should be taught how to negotiate contracts, explained the obligations of the contracts, the financial consequences of getting and owning a car, leaving the parental home and founding their own household etc. – before they reach the age of majority. The improvement of financial education of the youth and young adults is important. It should not be forgotten, however, that people get indebted primarily due to various adverse conditions and circumstances of life. The prevention of conditions has therefore to be seen as equal to the prevention of behavior.

5.4 Comparison of German and Polish results

Dieter Korczak

In the chapters 5.2 and 5.3 we presented the single results of the Polish and German surveys. Maybe as a kind of surprise it could be seen that there are not many differences between Polish and German students regarding knowledge, skills, attitudes and behavior. This could be taken as a kind of indicator for a globalized youth culture, maybe even for the characteristics of the so-called Gen Z. Despite the many similarities there are still some important differences. Therefore we want to have a look what these differences do mean. Due to the range of probability error (0.95) and confidence interval we only consider differences in percentages > 10% for this comparison.

First, we are interested in financial knowledge. German students have significantly more frequent the opinion that the financial knowledge they gained at home and school is sufficient to manage their own finances (Germans: 53.5%; Polish: 42.5%). To measure the financial knowledge more concrete we used a list with twelve statements. Six statements were more or less answered in the same way by German and Polish students. But for the other six statements we found relevant differences. When asked whether it is true or false that a balance sheet is a statement of costs and revenues for a given period an overwhelming majority of the Polish students mark this statement as true which is right. The majority of the German students were undecided. A similar distribution of knowledge can be seen for the judgment of budget as a financial plan containing a statement of income and expenditure. The majority of the Polish students knows about this. The majority of the German students does not agree. A reason for this could be that the German students have a different understanding of the word "budget". In Germany "budget" is very often used in common language as expression for the amount of money somebody has available for spending. (see Table 5.14).

Another difference considered the use of overdrafts. Overdraft is the amount that an account holder can debit at a given bank. Each second Polish student does know this but only one third of the German students. Most of the German students do not precisely know the function of an overdraft. Furthermore the Polish students are more knowledgeable about the use of credit cards than German students. 75.4% of the Polish students and only 53.2% of the German students do know that the functions of a payment card are wider than just withdrawing cash from an ATM. Also the knowledge about the use of online banking drifted apart. Not only adults can use the online banking services in both countries but students with the age of 15 years as well when they have a bank account with a limited amount of disposable money and guarantees by their parents. Here more German students (38.5%) do know that than Polish students (20.1%). Why these differences in knowledge do exist can only be speculated. We do not know whether in the selected German and Polish schools these knowledge

Table 5.14: Financial knowledge comparison (%).

	Germans			Polish		
	True	False	Don't know	True	False	Don't know
Balance sheet is a statement of costs and revenues for a given period	**48**	2.4	47.4	**73.6**	5.5	20.3
Overdraft is the amount that an account holder can debit a given bank	31.8	15	**51.4**	**59.3**	10.9	29.5
Only adults can use the online banking services	**38.5**	40.1	19.3	**20.1**	57.1	22.5
Visa/MasterCard are only for withdrawing cash at an ATM	16.2	**53.2**	29.4	8.9	**75.4**	15.3
Budget is a financial plan containing a statement of income and expenditure	**21.1**	58.1	18.7	**59.8**	25.7	14.1
The debit card works just like a credit card	5.8	**24.2**	68.2	10.3	**64.0**	24.9

Source: Author's own work.

information was part of the teaching lessons. Or in which way parents do prepare their children with this kind of knowledge. What is known is that the use of credit cards is more common in Poland than in Germany. And obviously the Polish students are a little bit more knowledgeable than the German students.

By theory the financial skills should correspond to the financial knowledge. More financial knowledge means better financial skills. This can partly be supported by the results of the two student surveys. German students seem to have slightly less financial knowledge and there skills seem partly to be less developed than the ones of Polish students. At least this can be demonstrated with two financial products. An overwhelming majority (85.3%) of Polish students does know how to pay by Visa/Master Card. This skill seems to exist only for each second German student. (see Table 5.15) It is interesting in which way the students are consistent in their answers. 53.2% of the German students did not agree that Visa/Master Card are *only* for withdrawing cash at an ATM. But this knowledge seems not to provoke the payment skills with a payment card. For Polish students it is different. There is a close relation between knowledge about the function of credit cards and their usage. Nearly two third of the Polish students say that they know how to create a bank account *online*. This is a skill which is only for roughly one third of the German students developed.

Table 5.15: Comparison of self-perceived financial skills (%).

	German		Polish	
	Yes	No	Yes	No
How to pay by Visa/Master Card	51.4	47.7	85.3	13.7
How to create a bank account online	31.2	67.6	61.0	38.0

Source: Author's own work.

Besides financial knowledge and financial skills financial attitudes play a major role when it comes to financial behavior. Due to many differences in the societal organization of Germany and Poland it could be guessed that there are as well exist a lot of differences concerning attitudes. To find out in how far this is an empirical fact we used a 12-statement list to measure financial attitudes.(see Chapter 5.2 and 5.3). Besides slight and not significant differences two important facts could be detected. First, more Polish than German students are convinced that they can handle and manage their money affairs and their life. Polish students believe strongly that they are capable of managing their money (83.4%) and that in their life everything will be somehow put in order (78.9%). (see Table 5.16). On the other hand, each second Polish student but four out of ten German students spend often more money than intended. A reasonable group of Polish students has the feeling that money and finances are too complicated for them (29.8%). A similar big group of Polish students is troubled by financial worries (28.6%).

Table 5.16: Comparison of money attitudes (%).

	Germans		Polish	
	Agree	Disagree	Agree	Disagree
Capable of managing money	70.9	26	83.4	16.3
Everything will be in order	57.8	36.4	78.8	20.7
Spend often more money	43.4	55.7	54.2	45.5
Finances too complicated	11.6	86.6	29.8	70.2
Troubled by financial worries	10.1	88	28.6	71.1

Source: Author's own work.

The amounts of debts can only partly explain the difference in troubled feelings. The Polish students are just a little bit more indebted than the German students (Germans: 9.8%; Polish: 15.1%). Both groups owe money mainly to family members or friends. In both groups a big majority is saving money (Germans: 85.5%; Polish: 81.8%). Polish students (30.5%) tend to have more regular savings than Germans (19.0%). In their expenditure behavior German and Polish students are again quite similar. Predominantly they spend their money for leisure time activities, closing and sweets, drinks or snacks. A remarkable difference can be recognized regarding legal drugs. More Polish students spend money for alcohol (14.7%) or cigarettes (11.2%) than German students (6.1%/ 3.7%).

The enumeration of similarities and differences finds its end in different financial information needs. There are five specific information needs which are more needed in one country than in the other. On top are information about opportunities for earning money. Though it is a predominant need in both countries the Polish students are craving more for it (80.2%) than the German students (55.4%). This can be regarded as a reflection of the general economic situation in both countries. At the second place comes the wish to get more information about cost saving possibilities for mobile phones (Germans: 27.2%; Polish: 17.2%). Third place is information about the possibilities to prepare a decent living in retirement. (Germans: 26.6%; Polish: 8.7%). It can be assumed that the high percentage in Germany is a result of the very intense public discussion about a decent life for seniors. At fourth place we find the maintenance of a car, especially the costs for insurances, servicing and repair. 26.3% of the German students but only 14.4% have an interest in this subject though the interest about time and costs of obtaining a driving license is quite similar (Germans: 39.1%; Polish: 32.8%). Finally, a relevant difference can be seen in the need to get information about keeping a housekeeping book. This is something which gets more interest from Polish students (20.9%) than from German students (9.8%).

Summarizing we can see that financial knowledge, skills, attitudes, behavior and needs are determined on one hand by the socio-economic situation in a country on the other hand on the circumstances of the specific life situation in each country. It can be furthermore stated that there are obviously common characteristics of the survey age group. One of the central characteristic is that this age group is already now and still a financially controlling and saving age group. In both countries around 40% identify themselves as frugal persons. Only 13% – 16% say that they are thrifty.

6 Financial education in Poland and Germany – recommendations

6.1 Recommendations of international organizations regarding financial education

Aleksandra Grzesiuk

It seems undisputed that participation in contemporary society, both in the developed and developing countries, requires citizens to have financial competences. Financial services accompany people in principle at every stage of their socio-economic life. At the same time, this participation also proceeds in stages. The use of financial services does not start when one reaches adulthood, both in legal and social sense (as starting one's own household). People have money from childhood (e.g. pocket money, which they can spend at their own discretion, or money that they receive for a particular purpose, for example to buy a meal or make other purchases). From an early age children need to develop skills which will help them to choose between different options and manage any discretionary funds they may have, whether from pocket money, social allowances, or part time jobs. These funds may entail the use of savings accounts or bank cards. Skills acquired at early stage develop as the participation in social life – and thus in the financial market – increases, which happens naturally in the human life cycle.

It is obvious that knowledge and financial skills of a child or adolescent are different from these of an adult, which follows from the very range of everyday individual financial operations. However, the complexity of some financial operations and their broad, often long-term, impact on the lives of people in modern society make it necessary to develop appropriate knowledge and financial skills in children at a relatively early stage of education. The importance of financial education from a global and national perspective can also be assessed by observing the involvement of global organizations, e.g. OECD. It is the OECD who conducts research on the level of education in various countries, reported in earlier parts of this book. It also includes financial education as an important factor of social development. It is one of the OECD assumptions that that financial education should be carried out at the primary school level (of course in the field adjusted to the age of students) and continue at the subsequent stages of compulsory education. OECD recommendations (OECD, 2005b) will be referred to in the context of financial education. These recommendations are not directly related to primary research, which the authors of this book conducted in Poland and Germany. However, their universalism makes them very valuable and worth disseminating.

According to OECD (2005b), financial education programmes should focus on high priority issues, which, depending on national circumstances, may include important aspects of financial life planning such as basic savings, private debt management or insurance, as well as pre-requisites for financial literacy such as elementary financial

https://doi.org/10.1515/9783110636956-006

mathematics and economics. Additionally, the OECD recommends that financial education should be taken into account in the regulatory and administrative framework and considered as a tool to promote economic growth, confidence and stability, together with regulation of financial institutions and consumer protection (including the regulation of financial information and advice). The promotion of financial education should not be substituted for financial regulation, which is essential to protect consumers (for instance against fraud) and which financial education is expected to complement. It is worth noting that financial institutions themselves should be widely involved in financial education of the society. However their responsibility should be encouraged not only in providing information and advice on financial issues, but also in promoting financial awareness clients, especially for long-term commitments and commitments which represent a substantial proportion of current and future income.

OECD (2005b) also presents good practices for financial education, both for public finance for financial education, financial education for retirement savings and financial education programs. But it has to be noticed these programs in general are not evaluated and when they are evaluated the effect size is not significant. As presented earlier, the OECD and its International Network on Financial Education (INFE) conducts research to promote financial education. However, a very important effect of the OECD activities is the development of set of tools to support policy makers and public authorities to design and implement national strategies for financial education. As reported in National Strategies for Financial Education/Policy Handbook (2015), 59 countries worldwide implemented national strategies using guidelines from the OECD/ INFE As mentioned earlier, neither in Poland nor in Germany such national financial education strategies have ever been developed and implemented.

Another example of an international initiative in financial education is APEC programme. Finance ministers at the 2012 Asia-Pacific Economic Cooperation (APEC) Ministerial Meeting adopted a policy statement recognizing the importance of financial education in schools and encouraging APEC members to make use of the OECD's High-level Principles on National Strategies for Financial Education. According to Asia-Pacific Economic Cooperation there are five important imperatives for teaching young people about financial literacy (APEC, 2014):

1. A solid curriculum backed with resources.
2. Specifically trained instructors. A majority of teachers feel uncomfortable and unprepared to lead financial literacy instruction. Therefore an important element of financial education of children and youth is the earlier financial education of teachers and trainers, who will later disseminate this knowledge among their students. Teachers indicated that money management education is important and said they themselves would benefit from such education (Way and Holden, 2009).
3. Avoiding a one-size-fits-all approach. An important element of financial education is the addition of methods of knowledge transfer and development of skills to the age and knowledge base of recipients. Wary also use active teaching methods, including gaming, social networking, and other channels of learning used by teenagers.

4. Mandatory courses for students. Studies show that when students are mandated to take a financial education course, they perform much better in financial literacy assessments than students in states with no personal finance mandates.
5. Involvement of parents. Parents, grandparents, and other family members have an interest in seeing their children financially knowledgeable. Parents and friends can also be "ambassadors" for financial literacy, advocating for programs in schools, libraries, and other community venues. However, it should be remembered that parents themselves may not have knowledge and skills adequate to the modern financial market. Therefore, their role may be limited to encouraging young people to participate in financial education.

Providing financial and economic literacy in primary education means the provision of educational instruction and/or materials designed to increase students' knowledge and skills and to change their attitudes and behavior relating to financial and economic context. The following principles may be taken into consideration when introducing it in basic education, as suggested at the APEC workshop by the member economies (APEC, 2014):
1. Age-appropriateness – The different topics are best introduced at teachable moments and linked to the real life experiences of students at different ages.
2. Spiral progression – The concepts or themes should be developed in such a way that different topics can spiral and evolve in complexity as the students go through the different grade levels.
3. Minimum Learning outcomes – Basic minimum learning outcomes should be developed based on the economy's context and reality.
4. Focus on capability – FEL education in schools is about basic financial capability rather than training financial professionals.
5. Link to literacy and numeracy – If there are no literacy and numeracy skills, financial and economic literacy will be difficult to achieve.
6. Roots in values – Financial education should not only provide children with knowledge and skills related to finance, but also cultivate values, attitudes and behaviors.
7. Relevance with practice – Education in schools tends to achieve better results if linked with practice and supported by students' family.
8. Promoting inquisitiveness and love for learning – Knowing where to find useful information and seek support when needed is more important than cramming up on a textbook to pass a test.

6.2 Financial education – recommendations for Poland

Beata Świecka

Knowledge and financial skills, in addition to the obvious benefits for the individual, resulting from improving the quality of individual decisions (purchasing, financial, planning expenditure, awareness and saving activities etc.), are also part of the concepts of information society and knowledge economy. Therefore, all institutions, both formal and informal, should be interested in building appropriate financial knowledge and social attitudes of all social groups, regardless of their age. Although, as many times in this book, it was pointed out that developing this knowledge and additional skills from early childhood gives much more effective results in adulthood, when participation in the financial market is wider. If we assume that the answer to the question whether to develop financial knowledge is obvious (yes, financial knowledge needs to be developed), the key question seems to be how to do it?

6.2.1 Formal education. National strategy for financial education

Due to the widespread need for financial knowledge and at the same time referring to the role of the state in the field of education, it is recommended to create a national strategy for financial education (NSFE). It is an expression of the responsibility of the government, responsibility for the material well-being of its citizens (Potocki, 2015). In operational terms, such a strategy would involve activities of all stakeholder groups, both in the field of formal and non-formal financial education. The main objective of NSFE should be to provide institutional solutions supporting the society in effective financial management and rational financial decisions. Initiatives undertaken within the framework of financial education lack systemic, systematic and long-term educational activities addressed to all citizens. The report of the Commission of the European Communities (EC, 2007) indicates that for many people the world of finance is difficult to understand because they lack the basic skills necessary to understand and perform financial operations. Citizens of countries that have implemented the financial education strategy have higher financial literacy than the nationals who are or are not at the NSEF design stage.

Both countries analyzed in this book – Poland and Germany – like many other countries, do not have the national strategies of financial education. Activities supporting the development of financial literacy are most often conducted by non-governmental organizations in partnership with public institutions and by institutions from the financial sector. As observed in Poland, there is a lack of coordinated actions at the level of the whole country. Initiatives undertaken in our country within the framework of financial education lack systematic and long-term educational activities, addressed to individual, very diverse groups of recipients. In Poland, the NSFE development initiative appeared in 2010, however, until now such a document has not been worked out. Financial education is optional for the students. Both in primary and secondary schools, financial knowledge is linked to the teaching of mathematics, knowledge of society, the basics of entrepreneurship and other subjects that appear as specialist in some high school programs. And definitely, it should be included in the curricula of the schools. Financial education programs should provide first the basic skills which are needed to exist in an economy system. At the same time, it should be emphasized that financial knowledge is obligatory in primary or secondary education, while its lack may negatively affect the adaptation skills of young people and, as a consequence, lead to non-optimal economic decisions in the future consisting in excessive indebtedness resulting from ignorance or investing savings in financial instruments at high risk.

It is also important for formal education to shape responsible attitudes towards individual financial decisions. It is necessary to make young people in all countries aware that, apart from the advantages of using financial institutions' products and services, there are also their disadvantages. Each customer is also subject to aggressive marketing activities of financial institutions, which, in principle, are focused on achieving their business goals, which are not always (and in principle can be said – rarely) converge with the goals of the individual clients. It seems important to emphasize that in implementing this task – educating about the negative aspects of the activities of financial institutions (for example, encouraging the purchase of financial products of dubious value for the customer, the actions of the so-called financial pyramids, the activities of non-bank financial institutions, the risk related to financial products and much more) – formal education plays a key role. Non-formal education, which we mentioned in the previous section of this book, is often implemented by non-profit associations that are/may be related to financial institutions. Therefore, it cannot be expected that these associations will carry out extensive information campaigns in such sensitive areas for financial institutions. This role should be played by formal educational institutions within the coordinated compulsory education programs at the central/national level.

6.2.2 Informal education. Role of parents, NGO and financial institutions

If learning is to penetrate the entire life of a human being, and this is the need of the moment, his or her process cannot be limited only to formal school. You have to go out of school, too often not catching up for the rather spontaneous progressive development of many institutions and non-school stimuli with a great load of valuable educating information, because everything creates the opportunity to learn and develop one's own talents and acquiring messages or competences (Trempała, 2011). Informal/non-formal education due to the active methods of teaching and work is called learning through practice. As has been shown widely in pedagogy, learning through experience and practice is definitely more effective. And because financial education refers only to practical behaviors and practical skills, according to the authors of this book, it should be critical in national financial education programs.

Everything that happens in society, at various levels and in various spheres of life, has an impact in individual age categories of people. Impacts and influences are often stronger than those of institutions specifically created for education and training (e.g. school). Therefore, when analyzing educational influences and influences on an individual or a group of people, they should be sought not only in institutions of formal education (school), but also in activities and influences whose effects are a side function or a completely unintentional educative one. In the context of financial education, such institutions may be financial market institutions that run specific educational programs and broadly understood non-profit sector (e.g. associations).

Nowadays, the society is unable to satisfy its needs through one school institution, even the most extensive one. Although the school should play a leading role in the implementation of social tasks, it will not achieve its intended goals if it operates in solitude and disregards the influence of out-of-school education. Therefore, when promoting the development of financial education, a special role should be attributed to financial institutions which, as part of corporate social responsibility, should provide financial education to various social groups, including the youngest age groups (children and young people as future clients of financial institutions), social associations, and social media. These institutions have their effective participation in financial education. In conclusion, the special role of the three different groups of stakeholders in non-formal financial education should be emphasized:

– the role of the family
– the role of non-profit institutions
– the role of financial institutions

The family plays a key role in the process of socialization and education, especially at a very early stage (children), also before the beginning of formal education. Primary research even shows that parents play a greater role than the school itself. Parents wonder when they need to talk to children about money. When the child says, "Mom, buy me . . ." it is the first signal that you should start talking about money. Children learn through the acquired financial knowledge, as well as through experience and observation. At the beginning of financial education, observation of parents plays a large role. Children look at what parents do with money, what they say about it, and what emotions are related to it. A parent should explain to the young child: what is the value of money? where does the money come from ? how much does everyday shopping cost? how money should be spent at a time (e.g. not everything at once)? As the child is a little older, he or she should know: what to do to have more money, that one can make mistakes and that financial management can be learned.

Therefore, the recommendations include areas of action that parents can take to support their child in financial development from an early age. The parent can teach the child a few basic issues:

1. Teach the child the recourse from small pleasure, to be used for deferred consumption, for savings, for the implementation of the intended purpose.

2. Teach the child to plan expenses so that they are not impulsive and implemented under the influence of emotions.
3. Show the child the opportunity to earn extra money, for example by selling unused items, toys, walking the neighbor's dog, mowing the grass.
4. Show the child how environmental activities will save money. For example, not wasting food, water, energy means not only taking care of the environment, but also of the home budget.

Young people often do not have their money. They usually receive certain sums from parents, grandparents, aunts and uncles, for birthdays or other celebrations. The question arises whether a child should receive pocket money. At present there are two schools:
1. One school says that the child should receive pocket money in order to learn financial management and its amount should be proportional to age. The word "proportional" has a relative meaning here. It depends of the richness of the parents and the child's age.
2. Another school says that the child should receive pocket money, but for doing some work, so as not to teach the child that money comes for nothing. Parents can determine which sum and from which age to give their child as pocket money.

Parents can help their children acquire and develop the values, attitudes, habits, knowledge and behaviors that contribute to their independent financial viability and well-being. PISA 2015 finds that, in 10 out of 13 countries and economies with available data, discussing money matters with parents at least sometimes is associated with higher financial literacy than never discussing the subject, after accounting for students' socio-economic status. And financial literacy, in turn, is associated with students' self-reported saving behavior and with their aspirations for their future (PISA, 2017).

An important role in informal financial education plays the non-profit institutions or nongovernmental organizations (NGO). There are at least a few non-profit organizations on the Polish market that aim to promote financial knowledge and skills. It is not directly the purpose of this part of the book to present these organizations. However, it is worth noting that their actions play a huge role in the development of financial awareness of the community. The state should support such initiatives, especially due to their unconventional approach to education, which turns out to be very effective. Of course, these organizations, as non-profit organizations, operate outside the system of the government organizations. We can support their activities for example by allowing the non-profit organizations to interact with students and teachers. We know from practice that there are many barriers in reaching children and youth in schools. Many schools only very reluctantly allow their pupils to contact the NGO representatives. It is also worth encouraging teachers to use programs that support their didactic competences.

By way of digression we will also mention the situation on the German market. The experiences of the project reported in Chapter 5 have shown that the access to children and youth in German schools is very limited. Similar barriers hamper the NGO's activities offering financial education projects As mentioned earlier, there are non-profit organizations on the Polish market that aim to promote financial knowledge and skills. One of the leading banks in Poland, mBank (the main shareholder of mBank is German Commerzbank which holds approximately 70% of its shares) is the founder of the mFundacja foundation. The foundation's mission is to support children and youth in the science of mathematics. Mathematics is the underlying factor of logical thinking and helps to understand the world around us. Its mastery helps make informed financial decisions or excel in sciences, thus contributing to economic development and achieving professional success. mFundacja supports various types of educational initiatives aimed at children and youth and develop their mathematical skills. Ultimately, improving mathematical skills means contributing to the development of financial knowledge and skills.

As an example could be also actions taken by the Society for Promotion of Financial Education in Gdynia (SKEF). SKEF was established in 1997 and since then has implemented over 12 large, nationwide educational projects in the field of financial education, addressed mainly to children and youth, although some projects have referred to other social groups (eg to seniors). The partners of these educational projects were various financial and social institutions, including National Bank of Poland, Office of Competition and Consumer Protection, Caritas Polska, Municipal Social Welfare Centers cooperative credit unions, commercial financial institutions, etc. The Society takes initiatives for financial education and consumer protection through promotion of financial education. SKEF pursues its statutory goals through extracurricular forms of education (informal education). Examples of non-formal financial education projects implemented by SKEF:

1. "Live financially! how to manage finances in your personal life"- workshops on financial planning and personal budget management for high school students. Training is organized for teachers, who later work with youth in selected schools throughout Poland from 2008. Workshops are not an obligatory element of the school curriculum, they are additional classes for young people. By participating in the 15-hours workshop, students develop their financial literacy: knowledge and skills in financial planning and personal budget management, including saving, investing and responsible lending in the context of preparation for adult life.
2. The project "I think, I decide, I act – finance for the youngest" is an innovative educational undertaking, addressed to the youngest (early school education: 6–9 y.o.). Children participate in specially prepared activities, developing their financial knowledge through critical thinking, discussions, visiting interesting places like: companies, shops and working in groups, using the project method Moreover, the project is valuable because it focuses on teachers' methodical training and offers developed didactic materials both for teachers and children.

In 2017–2019 the project is co-financed by the National Bank of Poland and has been implemented to 44 classes across Poland.

3. Economic competition “The Polish Championship of Youth Economists” – a nationwide project implemented by the Society for Promotion of Financial Education since 2006. It is addressed to junior high school students. Every year, the competition is devoted to a different subject matter in the area of economic and financial issues. In total, during the XII edition (in the school year 2016/2017), over 10,500 junior high school students took part in it.
4. “Help save the family” – the project is a response to the problems of low-income families who did not have the chance to acquire the skills of using products and services available on the financial market and are thus a social group exposed to the phenomenon of excessive indebtedness. The aim of the project is to educate families about planning and effective personal finance management. During the project, each participant with the support of a family mentor, will develop an individual home budget, adapted to the needs of the family. Children are also involved in different activities during the project such as: collecting receipts, planning, counting or saving. In addition, the mentor keeps monitoring the correct implementation of the budget set and help the family achieve financial goals. The examples presented above are only selected projects implemented by SKEF. All projects, however, have common features – they are characterized by dynamism, are interesting, encourage participation, have both practical and theoretical dimension. They also make people familiar with the basic concepts of economics, give personal experience of educational situations related to money management in specific situations, develop experiences and skills related to functioning in financial reality and develop an attitude of critical thinking over the phenomena of financial culture encountered on a daily basis. These are critical factors in the effectiveness of educational programs. As a partner of the research project: “Education and financial literacy in Germany and in Poland. Transfer of knowledge, analysis and recommendations”, reported in this book, SKEF formulated recommendations based on its many years of experience in non-formal financial education in Poland. SKEF recommendations for financial education are as follows:
   1. Nationally representative financial literacy survey to serve both as a diagnostic and monitoring instrument that will focus on particular age groups.
   2. According to the results of the survey and SKEF observation from other projects related to financial education of children, it is crucial to verify the essential financial literacy areas which will contribute to:
      – raising financial awareness in the sensible use of financial products and services available on the market,
      – developing personal finance skills and helping young people make informed choices that are relevant to their future financial security (regarding the range of products and services available on the Polish market),

   – strengthening key financial skills, which will help reduce the risk of social exclusion and overindebtedness,
   – increasing the protection level of the consumers' rights.
3. Defining a set of standards regarding the scope, forms and methods of financial education and competences of trainers / lecturers.
4. Preparing, in consultation with experts, didactic materials and teaching methodology for financial education trainers, which will coincide with the curriculum at the indicated educational stage.
5. Creating and maintaining a financial education portal, on which materials will be posted and updated on an ongoing basis and available for authorized financial education teachers.
6. Developing a training system (on-line) for financial education teachers.
7. Building a network of financial education teachers who, after taking part in training and registering schools, will have access to the portal and all materials contained therein.
8. Raising the rank of the subject Basics of entrepreneurship in high schools to the subject of matriculation.
9. Developing and implementing a common savings program in primary schools.
10. Starting activities preparing the development of a national financial education strategy, which can be used to identify and set national priorities. Concrete changes should be introduced into the core curricula, including financial education in selected subjects: in primary schools in classes 1–8 to the subjects such as: math, civics and, in secondary schools, to entrepreneurship classes.

The third group of stakeholders mentioned as important in non-formal financial education is financial institutions. The role and responsibilities of financial institutions cannot be overestimated. In the activities of financial institutions, it is important to conduct a dialogue with clients and business partners in order to build long-term trust and loyalty. The choice of language and channel of communication with clients (current and potential) are not irrelevant. A responsible approach to the client is related to make the language of common communication understandable (which is expressed in clearly informing about fees, products, services, non-use of professional terminology that is usually incomprehensible to clients) and contacting through different access channels (not only traditionally but also via online banking, mobile and social media). Such broad communication channels provide information on financial products. It is also important to clearly and transparently communicate to clients the various aspects of financial services, including the risks associated with them. Financial institutions, in their role as an institution of "public trust" should treat these tasks in a special way.

In order to prevent financial exclusion and to promote participation in the financial market, information activities and educational financial sector should refer to young people who are just entering the financial services market. Bank accounts for young people or – once common, today nonexistent – books for children on which they could independently save (so-called School Savings Unions) are examples of instruments that practice financial knowledge among young people. Based on the observation of the financial services market, it can be stated that transparency of information is an important task of financial institutions. Adaptation of the communication language to the recipient, avoiding jargon, message formulation in a simple and understandable way for the recipient who is not financially educated.

6.3 Recommendations from the German point of view

Dieter Korczak

The main target of the German-Polish study was to see whether it is possible to develop common and comparable tools for the analysis of financial education in both countries. This is an ambitious approach because the Polish and the German school systems are quite different. The main difference can be seen in the fact that the Polish system is centralist whereas the German system is federal. This difference has consequences for the implementation of curricula as well as for the conduction of research studies. In Germany it is a very difficult process to agree on common parts of a school curriculum for example on a curriculum concerning financial education. The sovereignty about all school related subjects belongs to each single State Ministry for School and Cultural Affairs. This means in practice that each of the sixteen different States in Germany has a different organization of its school subjects. The Kultusministerkonferenz, a regular meeting of all concerned State Ministries, is the platform for building consensus. But up to now there is now common program for financial education. This causes a great variety of subjects and the way financial knowledge and skills are trained in the schools.

The second big difference between Poland and Germany is due to the fact that for each research project which is done at schools in Germany, the step by step permissions have to be given. It is necessary to get a general permission by the Ministry followed by permissions of the school director, the school conference (a council of teachers and parents) and finally the student itself. These permissions are at first dependent of whether the research project and the conducting institution are completely without commercial interest and do not have any kind of advertising. Advertising concerns apply both to products and specific views or approaches. In Germany it is only tolerated to have a completely neutral, fact-based information or an equally balanced presentation (e.g. of the views of banks, insurances, consumer protection or debt advice). Generally it is expected that the information should be scientifically sound.

As could be seen there is no common definition of different terms used in financial education, there is also lack of consensus on the initial age of financial education. Likewise there is no generally agreed canon of the subjects of financial education. Some studies (e.g. Korczak, 2010) demonstrate that the age appropriateness of the content of financial education is the most important and decisive factor for the relevance of financial education. This means that for each age or for each age group (e.g. 4–6, 7–10, 11–14, 15–17, 18–25 years etc.) a specific curriculum has to be developed. This should be done by a group of scientific and teaching experts based on a need survey for each age group. In the German – Polish pilot study we have conducted such a need survey in both countries for the age group 15–17. The results show that the students want for example to get information about how to increase income and to reduce expenditures, how to open a bank account, what implications are related to contracts, what to do to obtain a driving license and maintain a car. So to say they are interested in information about the everyday life desires and financial needs. And they declare that they are willing to accept school lessons regarding these subjects when the lessons are theoretically and practically based and illustrated by examples. Gender specific needs should be taken into account as well.

Besides quite similar results in Germany and Poland the pilot study has demonstrated that the questionnaire is valid in both countries and could be used for studies on a large scale. The study made quite clear that it does not make sense to use the so-called „big three" or „big-five" questions. As the results of the German – Polish study have proved, such „big three" of questions do not reflect the life situation and the necessary skills of a sixteen year old student. When it comes to consider a national action plan for financial education one should be aware that such action plan has to make beforehand several decisions:

1. At what precise age should financial education start?
2. What should be the content of financial education?
3. Who will develop the content?
4. How is it guaranteed that the content is objective, fair, and scientifically sound?
5. How is it guaranteed that for each age/ age group the relevant subjects are included in the curricula?
6. What kinds of tools for the penetration of the subjects of financial education should be used?
7. With what kind of mechanism new content and new developments can be integrated on a regular basis in the curricula?
8. How will be evaluated the effects and the effectiveness of the financial education?

Financial education has in general to face two basic challenges: first, it must be regarded as a permanent process, for the financial service industry and the financial needs are in permanent evolution, second, it must guarantee that some traditional sustainable basic financial knowledge and skills are given (like balancing income and expenditures) because they are always needed for the debt-free survival in society. Though there is no national action plan for financial education in Germany, there is a National Education Action Plan for Sustainable Development (BMBF, 2017). By this plan the United Nations Sustainable Development Goal (SDGs) No. 4 " Quality Education" shall be realized until the year 2030 in Germany.

> *By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, thorough education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development*. (UNDP, 2016)

General sustainability cannot be reached without financial sustainability. In a broader context financial sustainability is extremely needed to reach general sustainability. The Länderministerien in Germany are responsible for including the SDGs in the curricula of the schools. It can be expected that aspects of financial education are covered within the framework of the curricula for the SDGs but it is not expressively stated. Some projects have been already awarded by the UNESCO with the award for Education for Sustainable Development, for example the school service and the "Financial Passport" of the German Saving Banks. Another nationwide concept has been developed by the German Institute for Adult Education. It is called "CurVe" and shapes a competence model for financial basic education. The model combines six competence domains (income, money and money transactions, expenditures and buying, housekeeping, money lending and debts, precaution and insurances) with knowledge, reading, writing and calculation skills.

Under German Presidency the G20 Group conducted in 2017 a workshop "Digitizing Finance, Financial Inclusion, and Financial Literacy". This workshop was devoted to the consequences digitization will have on financial inclusion. The growing distribution and access to digital services requires that consumers need to acquire additional skills and competences to be able to use these services effectively and responsibly. Digitization, however, also offers opportunities for the development of digital tools to enhance financial literacy. The G20 workshop emphasized the significance of adequate data in assessing the effectiveness and impact of financial literacy programmes and called upon policymakers to support the development of adequate financial literacy skills. To avoid exclusion of a relevant group of consumers from financial services, the curricula for financial literacy have to cover the subject digital financial services. As it is doubtful that this is already part of the school curricula, more efforts have to be made to prepare the students for the future. To sum up, there are a lot of programs and activities in Germany but they are not very well linked to each other, suffer from the federal structure and the diversity of suppliers and their effectiveness is not proven.

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https://doi.org/10.1515/9783110636956-008

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