



**D. A. TSENOV ACADEMY OF ECONOMICS -  
SVISHTOV**  
**Faculty of finance**  
**Department Finance and Credit**

**Yaakov Itach – Israel, PhD student**  
**№ D03021895**

## **ABSTRACT**

of a dissertation for the award of the educational and scientific degree "Doctor"  
(in Economics) under the doctoral program "Finance, Money Circulation, Credit  
and Insurance" (Finance) on the topic:

**"MEASURING THE LEVEL OF FINANCIAL  
LITERACY OF STUDENTS AND ITS IMPACT ON  
THEIR ECONOMIC BEHAVIORS"**

**Supervisor:**

**Assoc. Prof. Anelia Radulova, PhD**

**Svishtov**  
**2022**

---

The dissertation was discussed and proposed for defense under the Law on the Development of Academic Staff in the Republic of Bulgaria by the Department of Finance and Credit of the Academy of Economics "D. A. Tsenov", Svishtov.

The dissertation is in a volume of 227 standard pages. Structurally, it consists of an introduction, an exposition in 3 chapters, a conclusion and a list of references - a total of 270 sources. In support of the above, 16 tables and 9 figures are included. The volume of applications is 14 pages.

The defense of the dissertation will take place on \_\_\_\_\_ at \_\_\_\_\_ in the Conference Hall "Rectorate" Academy of Economics DA Tsenov Svishtov and the web-based conference system of the Academy of Economics "D. A. Tsenov" at a meeting of the scientific jury, determined by order of the Rector of the Academy of Economics "D. A. Tsenov", Svishtov, composed of:

Prof. Andrey Boyanov Zahariev PhD, D. A. Tsenov Academy of Economics  
Prof. Stoyan Stanimirov Prodanov PhD, D. A. Tsenov Academy of Economics  
Prof. Sonia Mileva - Bojanova, Dr. – Sofia University St. Kliment Ohridski  
Prof. Sava Dimov, PhD, Burgas Free University /BFU/  
Assoc. Prof. Atanas Ignatov Vladikov PhD, The Paisii Hilendarski University of Plovdiv

The defense materials are available at the Doctoral and Academic Development Department.

---

## CONTENT

<b>I.</b>	<b>GENERAL CHARACTERISTICS OF THE DISSERTATION</b>	<b>4</b>
1.1.	Relevance of the topic	4
1.2.	Object and subject of the research	8
1.3.	Research thesis	8
1.4.	Purpose of the dissertation	9
1.5.	Research tasks	9
1.6.	Methodology and Scope of the research	9
1.7.	Structure of the study	11
1.8.	Applicability of the research results	12
<b>II.</b>	<b>MAIN CONTENT OF THE DISSERTATION</b>	<b>13</b>
	<i>Introduction</i>	13
	<b>CHAPTER I. THE ROLE OF PERSONAL FINANCE IN THE FINANCIAL SYSTEM</b>	14
	<b>CHAPTER II. FINANCIAL LITERACY - A BASIC PREREQUISITE FOR EFFECTIVE MANAGEMENT OF PERSONNEL FINANCES</b>	20
	<b>CHAPTER III. FINANCIAL LITERACY LEVEL OF HIGH SCHOOL STUDENTS AND ITS ECONOMIC PATTERNS REFLECTIONS</b>	26
<b>III.</b>	<b>GUIDELINES FOR FUTURE RESEARCH ON THE TOPIC OF THE DISSERTATION</b>	<b>36</b>
<b>IV.</b>	<b>REFERENCE ON THE SCIENTIFIC AND SCIENTIFIC-APPLIED CONTRIBUTIONS IN THE DISSERTATION</b>	
<b>V.</b>	<b>LIST OF PH.D. STUDENTS 'PUBLICATIONS</b>	<b>37</b>
<b>VI.</b>	<b>REFERENCE FOR COMPLIANCE WITH THE NATIONAL REQUIREMENTS UNDER THE RULES FOR IMPLEMENTATION OF THE ACADEMIC DEVELOPMENT LAW IN THE REPUBLIC OF BULGARIA</b>	<b>38</b>
<b>VII.</b>	<b>DECLARATION OF ORIGINALITY OF THE DISSERTATION</b>	<b>39</b>

---

## I. GENERAL CHARACTERISTICS OF THE DISSERTATION

### 1.1 Relevance of the topic

The financial crisis that erupted in 2008 caused shocks in US mortgages and led to the collapse of leading banks and a recession in some economies around the world (Remund, 2010). The bursting of the housing bubble has led to the realization that the citizen must take his financial destiny into his own hands and, therefore, must acquire knowledge and skills that will help him manage it wisely (Taylor, 2009). The impact of crises and changes in financial markets on households and individual well-being has heightened fears in many countries that their citizens do not have the knowledge, tools, and skills needed to make informed economic and financial decisions (Hastings et al., 2013; Mitchell & Lusardi, 2015). In addition, this has led to the recognition of the need for policies aimed at improving well-being and wealth through better personal financial decisions (Huston, 2010).

The prevailing view that the lack of financial knowledge has exacerbated the financial crisis has prompted the OECD in 2008 to set up the International Financial Education Network (INFE) to share information between countries to raise awareness of financial literacy as a key skill every citizen must own. A study by the International Financial Education Network (OECD / INFE, 2009) found that lack of financial literacy is one of the factors contributing to unjustified financial decisions, which may have indirect negative consequences in the future. Also, financial literacy is widely recognized as a necessary life skill and an important element for the economic and financial stability of citizens and the economic system as a whole (“PISA 2012 financial literacy framework,” 2012; OECD, 2013; Krechovská, 2015).

**The analysis of recent research and publications** confirms the need to increase financial literacy. The OECD defines financial education as “the process by which financial consumers / investors improve their understanding of financial

---

products and concepts and, through information, instruction and / or objective advice, develop skills and confidence to become more aware of financial risks and opportunities. make informed choices, know where to go for help, and take other effective actions to improve their financial well-being ”(OECD, 2005b).

**The potential benefits of financial literacy** have been identified in a number of scientific studies, which, based on empirical research, suggest that senior citizens with a certain level of financial literacy in developed and developing countries are more likely to save and plan for retirement. . From these findings it can be concluded that there is a **direct causal link between financial education and the management of personal financial flows**. There is a growing understanding that higher levels of financial literacy lead to positive patterns of personal financial behaviour (Bernheim et al., 2001; Lusardi, 2008). There is also evidence that individuals with higher financial literacy are better able to manage their cash flows, participate in the stock market and perform better when choosing an investment portfolio, and that they are more likely to choose mutual funds with lower fees (Lusardi and Mitchell, 2008, 2011b; Stango and Zinman, 2009; Van Rooij et al., 2007). In addition, those with significant financial knowledge are more likely to amass wealth (Lusardi and Mitchell, 2011a). It is important to note that financial literacy is of great importance not only for economic stability and financial condition of the people, but also for the level of economic stability of the country, for welfare and public services provided by the state to citizens.

At the same time, there are arguments and findings in the scientific literature that **refute the effect of financial literacy** on the processes of managing personal financial flows. In 2005, the National Council for Economic Education (NSIE) measured financial knowledge among children and adults, but the study did not provide results that unequivocally prove that financial literacy has a significant effect on financial behaviour in making personal financial decisions. (Lusardi & Mitchell 2011a).

---

A survey of households in Germany found that the evidence on the effectiveness of financial education is disappointing (Stolper & Walter, 2017), Willis, L. E. (2008). In their study, they expressed doubts that financial literacy programs could improve individuals' financial knowledge in light of the complexity of new financial instruments in the context of the rapid technological development of financial markets. A mega-study conducted in 2013 examined the impact of financial knowledge and financial literacy on the financial behaviour of 188 people. The study found that financial literacy accounts for only 0.1% of financial behaviour. The article points out that there are many variable and non-cognitive factors that affect the financial behaviour of individuals, such as psychological, demographic and others. It is therefore very difficult to argue from the analysis of existing financial education programs that financial literacy will inevitably improve financial performance and lead to responsible and efficient financial behaviour. The article proposes to study the need for huge financial costs for the implementation of personal financial education programs in the light of conflicting findings and the degree of conditionality between financial literacy for effective personal financial decisions (Fernandes et al., 2014).

At the same time, a comprehensive international study assessing the level of financial literacy in the world among young people and adults shows that financial illiteracy is common in many developed countries such as Germany, Italy, Sweden, Japan, the Netherlands, New Zealand, and the United States. An analysis of the results of the survey shows that in the United States, for example, one-third of people cannot answer questions about investment diversification and risk levels correctly. It also seems that women are less likely to have the financial knowledge and argue that the difference in race affects financial knowledge. Whites and Asians have more financial knowledge than African Americans and Latinos. The survey also checks the level of self-confidence of the respondents, caused by the presence of financial knowledge. Adults believe that they have good financial knowledge, although practice refutes them. In general, it can be said that

---

the level of financial literacy in the world is low, regardless of the size and development of markets and the level of the state pension system (Lusardi & Mitchell, 2011b). A study in the United States found that the level of financial literacy among young people is low, with less than a third of them having some financial knowledge, and a lack of financial literacy is particularly prevalent in certain groups: women, blacks, Hispanics and those with low levels of education.

The prevailing view on the acquisition of **financial literacy of adolescents in schools** is that it is worth focusing on providing financial education to young people and, above all, on teaching it at school. As early as 2005, the OECD recommended that financial education starts at school, because it is important and necessary for people to be educated on financial issues as early as possible in their lives (PISA 2012 financial literacy framework, 2012).

In our opinion, it is particularly important to start financial education among the younger generations, as they are increasingly faced with the increasing complexity of financial products, services, and markets. In this way, they will be able to take on more financial risks in adulthood than their parents. In particular, they are likely to take greater responsibility for planning their savings and pension investments and for meeting their health needs. In addition to preparing young people for adult life, financial education in schools can also immediately address consumer problems and the financial decisions they make, such as opening a bank account, saving plans, buying a car, insurance, purchase of products and services with access to means of online payment or via mobile phones.

The need for a broad and consistent measurement of financial literacy in the State of Israel is due to the fact that educators, researchers and politicians need quality information on adolescent financial literacy levels and, hence, on decision-making for inclusion programs. financial education in schools. In 2012, a PISA study conducted by the OECD examined for the first time the field of financial literacy among 15-year-old students in Israel. The survey included 17 countries

---

that took part in the test, 13 of which were members of the OECD, including Israel (1,006 students tested in the field of financial literacy).

The PISA study, conducted in Israel in 2012 for 15-year-olds in the field of financial literacy, is the first and last study on the level of financial literacy of adolescents. For this reason, the politicians who are currently shaping economic and educational policy do not have an up-to-date picture of the level of financial literacy of high school students in Israel and their patterns of financial behaviour. In order to establish a financial education policy and to be able to implement financial education programs in schools, a comprehensive and consistent assessment of the level of literacy in Israel among high school students aged 15 to 18 is needed.

## **1.2. Object and subject of the research**

**The subject** of the study is the level of financial literacy among young people aged 15-18 in Israel.

**The object** of research is theoretical problems in acquiring specific financial knowledge for managing personal cash flows and the need for a system for measuring the degree of financial literacy.

## **1.3. Research thesis**

The **scientific thesis** defended in the present study is formulated as follows: *the existence of a system of indicators and criteria for measuring the level of financial literacy among young people will support the process of acquiring specific skills and knowledge for managing personal financial flows and ensure financial prosperity. of the personality in the future*



---

#### **1.4. Purpose of the dissertation**

**The aim** of the dissertation *is to measure the level of financial literacy among high school students in Israel and its impact on their economic models.*

#### **1.5. Research tasks**

To achieve the main goal of the research the following tasks are set:

1. Measurement and analysis of the level of financial literacy in Israel among students aged 15-18, by examining the level of their financial knowledge, financial attitudes, and financial behaviour
2. Derivation of the interdependence between financial knowledge, financial attitudes, and models of financial behaviour.
3. Comparison between the levels of financial knowledge, attitudes, and behaviour among students from schools that participated in the financial education program and those that did not.
4. Survey of respondents, the subject of this study, to determine the level of financial knowledge, financial behaviour, and financial attitudes based on various background variables, such as socio-economic and demographic factors.
5. Identification and analysis of the factors of influence and formation of effective and responsible financial behaviour among adolescents.
6. Justification of the need and scope of financial education curricula in schools.

#### **1.6. Methodology and scope of the research**

In the methodological aspect, the research is based on the use and application of comparative analysis, methods of deduction and induction, graphical method, statistical methods of analysis, survey method, and others.

---

The research method is based on building questionnaires and distributing them online through a social network to thousands of students. The sampling method is probabilistic: random. The participants in the study were localized via the Internet, according to protected segmentation via the social network Facebook by criteria such as gender, age, and country of residence.

The questionnaires were completed entirely by 618 students from all over the country. My research, as well as the questionnaire I created, consists of a wide range of questions reflected in many articles and studies around the world.

The theoretical basis and statistical analysis are based on research and publications published by various economists and scientists around the world, Internet sources, as well as government agencies and ministries from different countries, the Central Statistical Office of Israel, the World Bank, OECD, and others.

The difficulty and complexity of measuring and assessing the level of financial literacy in the world, as well as in Israel, stems from the fact that there is no methodology and common indicators for uniform measurement and evaluation to be agreed upon and accepted by most researchers and politicians in different countries. This necessitated *the creation of a unique questionnaire to assess the level of financial literacy of adolescents in Israel.*

The study is also aimed at assessing the impact of students enrolled in financial education programs in schools on their financial knowledge, attitudes, and patterns of economic behaviour.

The majority of respondents to the survey are from the ethnic group that makes up the majority in the State of Israel, students, most of whom belong to the Jewish people, who make up the majority of the population in the State of Israel.

The study does not include a reference to the Arab, Christian, and Druze minorities living in Israel, which make up about 25% of the country's population. One reason for this may be that the language in which the questionnaire was written in Hebrew, not their mother tongue. Despite my attempts to contact

---

respondents of Arab descent in Arabic, the cooperation between them was extremely limited and this data was not used for research purposes.

Also, within the Jewish sector, there is no reference to the religious-orthodox movement, whose access to the Internet is limited, and as a "closed community", cooperation with outsiders is limited. We assume that the exclusion of these groups may distort, to some extent, the assessment of the real level of financial literacy of high school students in Israel.

### **1.7. The structure of the research.**

## **INTRODUCTION**

### **I. THE ROLE OF PERSONAL FINANCE IN THE FINANCE SYSTEM**

- 1.1. Financial behaviour of the household and individual: some aspects of theoretical analysis.
  - 1.2. Personal Finance: An Interdisciplinary Approach
  - 1.3 Features of the formation and use of personal finance in the Israeli economy
  - 1.4 The transition from personal finance management through financial education to financial literacy
- Summaries and conclusion

### **II. FINANCIAL LITERACY - A BASIC PREREQUISITE FOR EFFECTIVE MANAGEMENT OF PERSONNEL FINANCES**

- 2.1. Relationship between the level of financial literacy and personal finance management – An Overview around the world
  - 2.2. The relationship between financial knowledge, attitudes and economic behaviour and financial literacy
  - 2.3. Financial literacy of youths in schools and its importance
- Summaries and conclusion

---

### **III. FINANCIAL LITERACY LEVEL OF HIGH SCHOOL STUDENTS AND ITS ECONOMIC PATTERNS REFLECTIONS**

- 3.1. The logic of the questionnaire survey of the level of financial literacy of the high school students in Israel aged 15 – 18
- 3.2. Analysis of the questionnaire survey results of financial literacy among high school students in Israel aged 15 – 18
- 3.3. Findings on the level of financial literacy in Israel  
Summaries and conclusion

### **CONCLUSION OF THE DISSERTATION**

### **REFERENCE OF CONTRIBUTIONS**

### **REFERENCE**

### **APPENDIX**

#### **1.8. Applicability of the research results**

The main contribution of the research is the fact that for the first time since the last PISA survey conducted in Israel in 2012 in the field of financial literacy, a comprehensive survey was conducted among 618 high school students aged 18-15 across the country, giving a real indication of the financial literacy of students in Israel. In this context, the present study seeks to adopt a broad descriptive and conceptual infrastructure for measuring and assessing financial literacy in Israel, relying, among other things, on broad definitions and theories adopted by the OECD.

Based on our research methodology, it is possible for researchers and policymakers to conduct frequent measurements and evaluations every few years and to compare the findings of the evaluation and measurement tools, as reflected in the questionnaires and the survey I conducted. .

The results and findings can help teachers and policymakers to understand the differences and gaps that exist in Israel's financial literacy levels between

---

students based on personal factors, socio-economic characteristics and demographics, and to enable them to adapt specific curricula to them.

Also, politicians and the government could review the allocation of school resources and budgets to reduce the gaps and inequalities that exist between students of different backgrounds.

The research aims to give an idea **of the characteristics that financial education curricula** must have in schools in order to be successful and to have an effective impact on the attitudes and economic behavior of knowledge-based students.

In this context, the results of the study show the importance and influence that the family factor and parents have on the economic behaviour of the student and the need to integrate family members in the financial education curriculum in schools.

The results also highlight the enormous impact that emotional, psychological and non-cognitive factors have on students' behaviour and financial attitudes and the need to integrate them into financial education curricula at school.

## **II. MAIN CONTENT OF THE DISSERTATION**

### ***Introduction***

The introductory section presents the general presentation of the research topic, the relevance of the topic, outlines the theoretical and practical framework of the research area and reveals the challenges and disagreements that exist between the different researchers on the topic. The main elements of the research are defined: object, subject and research thesis of the dissertation, the main goal of the research is formulated, as well as the research tasks, methodology and restrictive conditions of the research and the contribution of the research to the popularization and development of the topic.

---

---

## CHAPTER I. THE ROLE OF PERSONAL FINANCE IN THE FINANCIAL SYSTEM

Based on an in-depth analysis of the scientific literature, the main differences between the researchers' approach to describing the financial behaviour of households and the individual from the point of view of the neoclassical and institutional theory are presented.

The main postulates of neoclassical theory in describing the behaviour of individuals are derived:

*First*, insofar as the individual always pursues his own gain and not another's, his behaviour is strictly individualistic and is not influenced by external factors. Pursuing their goals, individuals form the mechanisms for the functioning of the economic system and therefore all social phenomena are the result of the behavior of individuals and the interaction of their individual motives.

*Second*, individuals are able to achieve their goals in full accordance with the means used. Their rational behaviour allows them to allocate limited resources to get the most out of their needs.

*Third*, their preferences are transient and stable - ie. each individual has stable selection criteria and does not change them every time he enters the market (transience) and is not inclined to change his preferences often, as a result of which their behaviour would become unpredictable (stability).

*Institutional* economics explains the role of the evolutionary process and the role of social, private and public institutions in shaping the economic behaviour of individuals and business owners. The object of analysis of the institutional is the evolution of social psychology. The emphasis is not on the individual, but on social psychology and the analysis of collective relationships between people. The emphasis is on the system of rights and legislation, political and social structure of society. Institutionalists believe that the study of the

---

evolution and functioning of economic institutions should be a central theme in economics.

The traditional institutional approach recognizes that human behaviour is constantly changing and economic generalizations must be linked to time and place.

The new institutional economy approach challenges the neoclassical paradigm and argues that transaction costs exist, has an effect of regulation on the pricing and execution of transactions in the financial market and affects the structure and functioning of financial institutions and banks, financial intermediaries, insurance companies, investment houses on transactions and prices. This approach focuses on institutions in terms of social and legal norms and rules such as social norms, values, ideology, social capital, asymmetric information, limited rationality, opportunism, bargaining power, human assets and laws, and argues that all these factors influence on transactions and prices.

In traditional institutionalism, the category of "household" is defined as an economic institution that is a form of interaction between individuals. Institutions, in turn, influence the financial behaviour of the individual through a system of norms, habits and guidelines.

Representatives of the neo-institutional economy argue that some economic agents have more information and a relatively higher level of financial knowledge, which simplifies their choice. As a result, some of their actions cannot be defined as purely individual – i.e. they are always influenced by the external environment.

From the point of view of the neoclassical and institutional synthesis the essence of the basic models of financial behaviour of the household and the individual in different socio-economic conditions as subjects of financial relations is described.

The unique individuality of the human personality gives rise to different motives for financial decisions and requires the use in scientific analysis of a

---

"unified model" of man, operating in a particular system of socio-economic conditions.

The starting point in developing models that describe the behaviour of the individual in making financial decisions is the degree of rationality.

Among the many areas of human "modelling" one can distinguish the complete and limited rationality of economic behaviour.

*The first trend*, presented by the English classical school and neoclassicism, is based on the idea of completely rational behavior of the individual, whose main motive in the activities of the "economic man" is selfish, primarily monetary interest.

*The second* direction is inherent in institutionalism. Human models developed in this direction seem more complex and are based on the hypothesis of limited rationality, which reflects the inability to use the completeness of available information in economic decisions due to difficulties in collecting and analysing it, as well as limited human cognitive abilities. The analysis of a person's economic behaviour is complicated by the non-economic component in the motivation of his activity (altruism, religious attitudes, etc.), i.e. a component whose share increases with the development of human society.

**Paragraph two** describes the area of personal finance and defines the financial issues related to this area: budget management, visibility, savings, insurance, mortgages, bags, retirement planning and more.

Personal finance in the past has been seen primarily as a science in the field of family. There are a number of definitions of concepts that have been used in the past and are still included by some researchers in the field of personal finance.

✓ *Family economy*. Research in this area focuses on factors that determine the standard of living of families and individuals, as well as their ability to improve their standard of living and economic well-being by meeting their social and personal needs. It is based on the principles of purchasing products and services. A supplement for households and individuals that will improve their



---

lives while communicating with the other social and economic systems that surround them.

✓ *Consumer economy*, which studies the economic interactions of consumers with their external environment. This area includes economic analysis of markets and consumer activities, paying attention to and integrating psychological, social, political and environmental considerations. The consumer economy is aimed at analyzing the patterns of consumer behaviour of households at the macro and micro levels of the economy micro (Ritchey, 1978; in Schuchardt et al., 2007).

✓ *Management of household resources* - the researchers are focused on describing management processes that promote and promote meaningful and effective living for individuals and families. (Deacon & Firebaugh, 1988; in Schuchardt et al., 2007).

✓ *Consumer education* - examines the processes of informed consumer decision-making. Resource management and civic engagement. These issues are related to smart resource management and are in the field of financial management (Bannister & Monsma, 1982; Schuchardt et al., 2007).

Personal finance has its roots in economics, financing, managing decision-making processes and allocating financial resources efficiently to the individual and the family in order to maximize their economic well-being and standard of living.

Personal funding includes the application of principles and rules from many different areas such as business administration, economics, sociology, psychology, adult education, and training and counseling in favor of new and creative ways of learning in which individuals, families, and households acquire and distribute economic resources intelligently and efficiently (Hira, 2009).

The challenge today is the availability of many financial education programs aimed at acquiring specific knowledge about the management of personal financial flows and the process of making individual financial decisions.

---

Existing financial education programs are referred to by different names, the most common name is "financial literacy". In the dynamic system of personal financing, the center is the decision-makers, influenced by various factors from the external and internal environment.

The ultimate goals of personal finance training are to provide individuals and families with knowledge and skills for informed and productive financial choices at different stages of the life cycle, which relate to different and diverse aspects such as values, beliefs, attitudes, emotions, and self-esteem (Schuchardt et al., 2007).

When it comes to examining the level of financial knowledge of households and their real management of personal finances, it is interesting to consider the following four areas: *cash management, credit management, savings, and investment*.

Research shows that most citizens around the world are unfamiliar with basic financial concepts such as *inflation, risk diversification, interest rates, etc.*

By identifying the strengths and weaknesses of people's financial knowledge of personal finance, it is possible to effectively develop financial education programs to correct these shortcomings.

For about two decades, the importance of the state to provide its citizens with financial knowledge and basic financial skills so that they can navigate the complex financial system that has developed in recent years and consumers can choose financial products that meet their needs and not expose them to unnecessary financial risks. This policy encourages the development of financial education programs at an early age, among students and adults.

Financial education is a key component in a household's ability to make financial decisions tailored to its needs and capabilities, and is an additional tool for regulating consumer protection. *The perception that financial literacy can lead to increased social well-being has led to the promotion of financial education*

---

*activities in many countries, and the OECD has published guidelines and guidelines aimed at promoting the problem.*

In December 2011, the Israeli government decided to establish a financial education department in the capital market department of the Ministry of Finance, whose role is to coordinate the issue of financial education in Israel and prepare a comprehensive national policy plan to promote financial education. and increasing financial literacy.

In the context of these views, an analysis was made of the characteristics for the formation and use of personal finance in the Israeli economy.

The Central Bureau of Statistics in Israel conducts an annual survey of the situation of households, focusing on their consumer and financial behavior towards the banking system. The survey shows that about half of households have loans. Of the households that took out loans, about 15% (about 7% of the population) are at risk of non-payment and bankruptcy.

The need to acquire basic knowledge and skills in day-to-day financial management is proving critical and important for people and households around the world.

One of the first stages in the development of financial education is the adoption of recommendations for good and effective principles and practices in financial education by the OECD (OECD, 2005a). In addition, the OECD has established a global financial education information mechanism called the International Gateway for Financial Education, the IGFE contains extensive research, data and information on financial education programs around the world (PISA Financial Literacy Framework 2012, 2012).

Recognizing the importance and centrality of financial literacy worldwide, the OECD established the International Financial Education Network (INFE) in 2008 to draw on the experience and expertise of developed and emerging economies around the world. More than 220 public institutions from more than 1,000 countries have already joined the INF.

---

One of the main challenges for the organization was to define the concept of financial literacy and to develop a tool for measuring and assessing the level of financial literacy, which is acceptable to most researchers and politicians in different countries.

## **CHAPTER II. FINANCIAL LITERACY - A BASIC PREREQUISITE FOR EFFECTIVE MANAGEMENT OF PERSONAL FINANCIAL FLOWS**

To clarify the relationship between the level of financial literacy and personal finance management, a comparative analysis of the results of research conducted in a number of countries around the world and in Israel. Respondents in these studies have different demographic and socio-economic characteristics.

A study conducted by the OECD between September 2010 and early November 2010 included 12 countries: Armenia, the Czech Republic, Estonia, Germany, Hungary, Ireland, Malaysia, Peru, Poland, the United Kingdom, South Africa and Norway. About 1,000 people aged 18 and over were included in the survey. The aim of the study is to compare the level of financial knowledge and skills, economic behaviour and financial attitudes between the 12 countries and within countries.

Respondents' financial knowledge was measured by the 3 well-known questions created by Lusardi and Mitchell, called the "big 3" - compound interest rates, inflation, and risk diversification. Of the respondents, only one-third answered all 3 questions correctly, and half of them answered correctly the first, relatively simple questions related to the calculation of compound interest rates and inflation. The results support the claim that the level of financial literacy among older Americans is low.

Additional studies around the world (Lusardi & Mitchell (2011a) conclude that the level of financial literacy is low not only in the US but also in other

---

countries with complex and developed financial markets such as Germany, the Netherlands, Switzerland, Sweden, Japan, Italy, France, Australia and New Zealand.

An assessment of the level of financial literacy in Israel was carried out in 2012 by the Central Bureau of Statistics, commissioned by the National Economic Council and in cooperation with the Ministry of Finance and the Bank of Israel. The survey included questions on financial knowledge, attitudes and financial behaviour and was conducted among approximately 1,200 people aged 20 and over.

According to this study, the percentage in Israel of those who know how to answer each of the first three questions above is lower than in OECD countries. 59% in Israel compared to 82% in the OECD on interest rates, 65% in Israel compared to 80% in the OECD on inflation and 48% in Israel compared to 71% in the OECD on risk diversification (Results of the Financial Literacy Survey, 2012).

One of the most important and comprehensive surveys conducted by Lusardi & Lopez 2016 examines and analyses the level of financial literacy among 15-year-old students. Their study is based on the results of a test in Pisa, conducted in 2012 among 806 high school students in the United States, from 158 schools.

The results of the survey show that the average performance of students in the field of financial literacy is similar to the average for students in the OECD. However, it can be seen that there is great variability in assessments among students in the United States, and one of the factors influencing and explaining the most significant differences in the socio-economic variable. One of the important conclusions of this study is that inequality encourages disparities between students at the beginning of the life cycle and has a negative impact on the student's knowledge and financial skills. (Lusardi & Lopez, 2016) Lack of financial literacy is typical of certain disadvantaged groups such as women, blacks, Latinos, and the low educated. In addition, financial literacy is influenced

---

by young people's cognitive abilities, attitudes towards time, the quality of their teachers at school and the attitudes that teachers give to students, family background, parents' education, and social characteristics. (Lusardi et al., 2009).

One of the most important and comprehensive surveys conducted by Lusardi & Lopez 2016 examines and analyzes the level of financial literacy among 15-year-old students. Their study is based on the results of a test in Pisa, conducted in 2012 among 806 high school students in the United States, from 158 schools.

The results of the survey show that the average performance of students in the field of financial literacy is similar to the average for students in the OECD. However, it can be seen that there is great variability in assessments among students in the United States, and one of the factors influencing and explaining the most significant differences in the socio-economic variable. One of the important conclusions of this study is that inequality encourages disparities between students at the beginning of the life cycle and has a negative impact on the student's knowledge and financial skills. (Lusardi & Lopez, 2016) Lack of financial literacy is typical of certain disadvantaged groups such as women, blacks, Latinos, and the low educated. In addition, financial literacy is influenced by young people's cognitive abilities, attitudes towards time, the quality of their teachers at school and the attitudes that teachers give to students, family background, parents' education, and social characteristics (Lusardi et al., 2009).

In Israel, there are also a large number of students with a score below 400 who demonstrate a very low level of knowledge. The data show that 23% of Israeli students are considered difficult, compared to an average of 15% of OECD countries that have participated in this area of literacy.

The variance and distribution of estimates in Israel according to socio-cultural-economic background is the second-highest among the countries studied in this field and is significantly higher than the distribution in most countries. In terms of gender, it can be seen that there is no difference in ratings between Hebrew-speaking boys and girls. The result for girls is 504 points, and for boys -

---

503 points. Less than a third of Israeli students have a bank account (29%), compared to an average of 58% in OECD countries. It should be noted that no significant link has been established in Israel between holding a bank account and financial literacy performance. (Israeli Ministry of Education, 2014).

*The causal link between financial literacy* acquired through the provision of financial knowledge and *financial skills that* are thought to influence an individual's economic behavior is controversial, and some argue that this link lacks a sufficiently reliable and proven basis and maybe more unfounded intuition than field research (West, 2012). Three studies examining this relationship found that there was a very weak or non-existent correlation. (Bernheim et al., 2001; Gross et al., 2005; Benartzi & Thaler, 2007).

A survey of business administration graduates at Yorton Business School found that when students have to choose between financial products such as mutual funds, for example, which differ only in their management costs, they find it difficult to choose wisely and rationally (Choi et al., 2009). From the above example, it is concluded that mistakes in making financial decisions are not always the result of financial ignorance or lack of financial education, but are influenced by individual cognitive biases.

*The link between financial literacy, financial education, and economic behaviour is controversial.* The analysis of the results of a number of scientific studies in this direction shows that the various attempts and interventions made to improve the level of financial literacy among the population explain only 0.1% of the variance. The effects are weaker among low-income people. The analysis of the various findings shows that even with large interventions resulting from targeted financial education, however, after only 20 months, their impact on people's financial literacy and financial behaviour is extremely negligible.

One possible conclusion is that the impact of financial education on individual behaviour patterns is more limited than previously thought.

---

This important study contributes to a critical rethinking of the *financial education programs* currently in place in schools, raising the following questions:

✓ Why do most of the financial education programs and training seem to be unsuccessful so far?

✓ Have these programs achieved their goal and how can these programs be evaluated and criticized in a systematic, consistent, and coherent way based on most of the opinions of different researchers?

✓ Could this be the result of poor teacher training in a unique profession such as financial education?

✓ Should the objectives and designation of financial education programs be changed?

**The third paragraph** describes the basic principles and applications of financial education programs among young people in schools and their importance in shaping patterns of economic behaviour.

The low level of financial knowledge that currently exists in schools and the workplace requires different monitoring and immediate intervention in the transfer of basic financial knowledge and skills to the younger generation. In addition, in order to prepare young people for adult life, financial education in schools must focus on financial problems that already worry young people, such as buying products online, buying motorcycle or car insurance, opening a bank savings account. account and deciding whether to invest the free money or spend it on getting a higher level of education. (Results of PISA 2012: Students and Money (Volume VI), 2014).

*The need for financial education programs* that will improve the level of financial literacy of young people and adults is consensual. There is an understanding that in order to prevent bankruptcies in households and businesses, to prevent the accumulation of large debts at the beginning of life and to encourage people to save for retirement, they need to be taught the basics of financial education, concepts.



---

The last three decades have seen a significant acceleration and increase in the scope of financial education programs and courses in schools, universities and workplaces. (Fox et al., 2005) There are now many public and private entities that offer and participate in financial education activities and programs. Public organizations, cooperatives, businesses, religious organizations, the college community, and even the U.S. military (Vitt et al., 2001) In addition, government institutions, foundations, banks, and universities, most of which undergo financial education programs. A small number of them participate in the financing of these programs, and some of the entities both shop and finance activities and programs for financial education (Hopley and Cleveland, 2003).

The programs are diverse and related to financial literacy in 3 different areas such as:

1. There are programs that deal directly with improving people's skills and knowledge of personal finances, and therefore the topics in the program deal with budget, savings and credit management.

2. There are programs that deal mainly with retirement and savings planning and are implemented in the labor market for employees.

3. The main category deals with family economy, management of personal finances of households, which includes management according to the expenditure budget and current consumption of the household (Fox et al., 2005).

The main goal of these different programs is to show that they are really effective and to improve the level of financial literacy of the people.

Any such program offered and implemented in schools or workplaces must include *an element of meaningful evaluation* that first examines the target audience of the program, what its objectives are, and whether the program is effective and achieves its objectives.

In an attempt to improve students' financial literacy, it is important to understand that in order to acquire financial knowledge and skills to manage personal financial flows, resources such as experience, friends, family and media

---

should be used wisely. and be included in the curricula. In addition, in order to maximize and maximize the effectiveness of financial education programs, unique and specialized teacher training must be provided. It is also necessary to establish a mechanism for monitoring curricula in order to bridge the gap between learning objectives and outcomes.

### **CHAPTER III. FINANCIAL LITERACY LEVEL OF HIGH SCHOOL STUDENTS AND ITS ECONOMIC PATTERNS REFLECTIONS**

An assessment of the degree of impact of financial literacy on the patterns of economic behaviour of students was carried out on the basis of a survey among young people aged between 15 and 18 years.

*The questionnaire includes 3 main dependent variables: financial attitudes, economic behaviour, and financial knowledge and skills, and independent variables: demographic data (gender, age, class, place of residence, socio-economic level, level of religiosity), participation in financial education personal income training.*

The main findings of the analysis of the results and the interpretation of the results of the survey are presented in paragraph 3.

An invitation to fill in the questionnaire to 37,000 young people was sent through the social network Facebook. The answer was received by 618 boys (56.7%) and girls (43.3%) aged 15-18, who attend about 150 high schools throughout the state of Israel.

The results of the study are shown in Table 1 and can be summarized as follows:

➤ **Attitudes.** The analysis of the findings in the questionnaire regarding the attitudes of the students reveals that in the general variable of the ratio the average result of 617 of the respondents is 4.0288 out of 5, and the result of the standard deviation is 0.45. These values show that, on average, most students have

---

very positive financial attitudes - they tend to adopt approaches that recommend long-term planning, and demonstrate self-confidence and the ability to understand and cope with the consequences of financial risk. In addition, adolescents seem to prefer to consult more family members, but not "largely". The obtained average score of 3.62 and a relatively large standard deviation of 1.009 indicates that there is a big difference between students who tend to consult family members to a large extent compared to those who consult very little or not at all. do not consult family member.

In terms of gender, the results show that there is a difference between girls and boys. The overall score among boys was 4.06 (SD = 0.44) and among girls was 3.97 (SD = 0.46), which is a significant difference. At values of  $T(614) = 2.53$ ,  $P < 0.05$  can be interpreted as having self-confidence, financial maturity, coping with financial risk and slightly better long-term planning for boys compared to girls at this age.

➤ **Behaviour.** When analysing the findings in the questionnaire, in the chapter dealing with the financial behaviour of high school students, the variable: general behaviour was calculated in two ways - total score (scale 1 - 5) and the average score of 3.6286 and a standard deviation of 0, 69. This result reflects a moderate level of effective financial behaviour in terms of students' ability to negotiate and compare prices, act financially responsibly, and participate in household management decisions. All mean scores obtained in the behavioural sub-variables are lower than 4.

We assume that the second method of calculation (using a percentage scale) to more accurately reflect the economic behaviour of students in everyday life. The average score obtained is 65.22 and the standard deviation is 20.89. These findings show a low average level of effective and responsible financial behaviour among students.

**Descriptive Statistics, Table 1***Relationships among the dependent variables: financial knowledge, behavior and attitudes.*

Descriptive Statistics			
	N	Mean	Std. Deviation
Attitudes: Long-term planning	617	4.1475	.53181
Attitudes: Confidence and self-belief	612	3.7549	1.00672
Attitudes: Financial maturity	616	4.2581	0.85915
Attitudes: Resistance to risk	606	3.4736	1.1216
Attitudes: Overall Score (In Questionnaire: Part I, Table 1)	617	4.0288	.45340
Attitudes: Consultation with professionals	615	3.6057	.75353
Attitudes: Consultation not with professionals	615	2.3725	.64076
Attitudes: Consultation with family members	615	3.6244	1.00991
Attitudes: Not consulting	613	2.3458	1.10160
Behavior: Negotiate and compare prices	607	3.6351	.84326
Behavior: Financial responsibility	607	3.9130	.65033
Behavior: Involvement in household management	604	2.8079	1.15880
Behavior: General Score (Scale 1 - 5)	618	3.6286	.69946
Behavior: Overall Score (Percent Scale)	618	65.2289	20.89559
Financial Knowledge: Question # 1	599	70.28	45.739
Financial Knowledge: Question # 2	591	39.26	48.873
Financial Knowledge: Question # 3	586	41.30	49.279
Financial Knowledge: Question # 4	583	62.61	48.426
Financial Knowledge: Question # 5	589	80.48	39.673
Financial Knowledge: Question # 6	588	13.95	34.672
Financial Knowledge: Question # 7	585	12.14	32.683
Financial Knowledge: Question # 8	588	87.1	18.775
Financial Knowledge: General Score	606	50.75	21.968
Valid N (list wise)	560		

---

The survey data did not show a significant difference in the results of behavioural variables between students who attended financial education classes at school and those who did not. This may mean that the content of the financial education lesson, as taught in school, has not been able to influence or change students' financial behaviour.

In terms of gender, the findings suggest that there is a difference between girls and boys: overall score (scale 1 - 5)  $T(614) = 5.14$ ,  $P < 0.001$ , with boys receiving an average score of 3.75,  $SD = 0.63$ , girls - 3.47,  $SD = 0.72$ .

There is also a difference between boys and girls and the variable Behaviour: overall score (percentage scale)  $T(614) = 6$ ,  $P < 0.001$ . boys received a score of 69.66 and a standard deviation of 19.3 with values for girls of 59.72 and a standard deviation of 21.26.

➤ **Financial knowledge and skills.** The analysis of the findings in the questionnaire, in the chapter on students' financial knowledge, shows that the overall average score in students' financial knowledge is very low, 50.75 with a high standard deviation of 21.96.

➤ *Correlation between dependent variables:* financial knowledge, behaviour and attitudes. When examining the correlation between the general variable of attitude and the general variable of behaviour (scales 5 - 1), a moderate and significant positive correlation was found ( $r = 0.314$ ,  $p < 0.001$ ) (see Table 2). The above correlation shows that the level of positive financial attitudes, showing self-confidence, financial maturity and the ability to plan and identify risks in the long run, contribute to effective and responsible financial behaviour. The strength of the correlation is not very strong and therefore it can be concluded that at the theoretical level certain attitudes and approaches do not always turn directly into actual actions and expected and specific economic behaviour.

A very weak but significant positive correlation was found between the general variables of attitudes and the variable of knowledge: total result. ( $r =$

0.207,  $p < 0.001$ ). The conclusion is that certain positive financial attitudes are not a guarantee of financial knowledge and financial skills among students.

**Correlations, Table 2**

		Financial Knowledge: General Score	Attitudes: Overall Score	Behavior: General Score (Scale 1 - 5)	Behavior: Overall Score (Percent Scale)
Attitudes: Consultation with professionals	Pearson Correlation	0.064	0.219**	0.107**	0.075
	Sig. (2-tailed)	0.115	0.000	0.008	0.063
	N	606	615	615	615
Attitudes: Overall Score	Pearson Correlation	0.195**	1	0.314**	0.386**
	Sig. (2-tailed)	0.000		0.000	0.000
	N	606	617	617	617
Behaviour: Financial responsibility	Pearson Correlation	0.157**	0.419**	0.540**	0.865**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000
	N	601	607	607	607
Behaviour: General Score (Scale 1 - 5)	Pearson Correlation	0.188**	0.314**	1	0.726**
	Sig. (2-tailed)	0.000	0.000		0.000
	N	606	617	618	618
Behaviour: Overall Score (Percent Scale)	Pearson Correlation	0.154**	0.386**	0.726**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	606	617	618	618
Financial Knowledge: General Score	Pearson Correlation	1	0.195**	0.188**	0.154**
	Sig. (2-tailed)		0.000	0.000	0.000
	N	606	606	606	606

\*\*Correlation is significant at the 0.01 level (2-tailed)

\*Correlation is significant at the 0.05 level (2-tailed).

The correlation between *the knowledge variable*: total score and the *behaviour variable*: overall score (scale 5 - 1) and I found that the relationship was very weakly positive ( $r = 0.158$ ,  $p < 0.001$ ). The correlation is also very weak compared

---

to the behavioural variable: overall score (percentage scale) ( $r = 0.152$ ,  $p < 0.001$ ). This finding shows *that the level of financial knowledge is not a guarantee of responsible and effective financial behaviour.*

We assume that responsible and effective behaviour in making personal financial decisions are influenced by factors that have a greater impact on financial behaviour, such as: *cognitive factors, psychological and emotional.*

**Conclusions:**

**First**, non-cognitive factors such as *emotional and psychological barriers, self-control, ability to reject satisfaction, self-confidence, faith, coping with insecurity, risks and crises have a major impact on the financial behaviour of people in general and students in particular.*

**Second**, the weak correlation found between the financial knowledge and the financial behaviour of the respondents gives grounds to claim *that the level of financial knowledge of a person is not a guarantee for effective or rational financial behaviour.*

**Third**, when measuring the level of financial knowledge and its impact on students' attitudes and economic behavior, it is found that *there is no significant difference between those who have completed a training course in personal and financial management and those who have not.* This finding is in line with a number of studies around the world that examine the effectiveness of various financial education programs for adults and young people and conclude that in most cases their impact on people's financial behavior is very limited and short-lived.

**Fourth**, the assessment of consumer behavior reflects relatively significant difficulties among students in their ability to plan long-term and save money.

**Fifth**, students' participation in financial decisions that happen daily in the family is low, although there is some willingness to consult with family members about financial decisions.

---

*Sixth*, the assessment of financial attitudes and financial maturity shows that there is a significant difference in financial between students with higher socioeconomic status compared to those with lower.

Based on the results of the survey, views are expressed on *the scope of curricula and ways to conduct effective training* in managing personal financial flows, the most important of which are:

✓ *The objectives of financial education must be measurable and clearly defined* - for example, the ability to know when and how to use different financial products, understanding the benefits and risks of the economic environment, the ability to manage personal budgets and give a sense of ability and confidence in it. In addition, the "effective" curriculum must provide an opportunity to take into account the individual's personality traits and the main psychological factors that cause a sense of financial efficiency;

✓ *Financial education should be based on practical experience* related to the decisions that young people make in everyday life, such as purchasing products, payments for motorcycle insurance, insurance, etc. The experience of young people should be accompanied by constant feedback, which will explore what needs to be improved and how the program can be streamlined. (Zion et al., 2010), (Jessup et al., 2008), (Marchiori et al., 2015), (Amagir et al., 2018);

✓ Financial education programs *to "provide" students with the opportunity for an active experience in the real world* - for example, opening and managing their own current or savings account;

✓ In order for the financial education curriculum to influence the student's patterns of economic behavior in a way that will help him overcome psychological and emotional barriers while dealing with financial challenges, the *involvement of parents and family is important in the learning process*;

✓ In order to achieve long-term results, *the training should be aimed at changing the patterns of thinking and attitudes* that hinder cost-effective and intelligent financial behaviour, empowering the individual to act responsibly and



---

freely. Overcoming emotional and psychological barriers will increase young people's ability to plan for the long term or to imagine several options for a better financial future. To this end, it is necessary to develop a comprehensive, long-term plan that will lead to a change in student consciousness - a curriculum that will move from the world of concepts of "financial education" to "financial ability" and which will have measurable goals that can be evaluated at the end of the process. (Michael Collins, J., & Odders-White, E. (2015)) In addition, the plan should include a detailed description of the objectives, schedules and tools available for training in the program. Education is the ability to measure, evaluate and refine in accordance with changes in the environment. In order for a training program to be accepted by most researchers, teachers and politicians, its development must involve representatives of various institutions: Central bank, the Ministry of Education, the government and other stakeholders.

✓ In order for financial education programs to be accurate, effective and focused, they must *also take into account the interpersonal and demographic differences that exist between students*, and not apply the program as a unified approach to the whole diverse population. .

## References

1. Amagir, A., Groot, W., Maassen van den Brink, H., & Wilschut, A. (2018). A review of financial-literacy education programs for children and adolescents. *Citizenship, Social and Economic Education*, 17(1), 56–80. <https://doi.org/10.1177/2047173417719555>
2. Benartzi, S., & Thaler, R. H. (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic Perspectives*, 21(3), 81–104. <https://doi.org/10.1257/jep.21.3.81>
3. Bernheim, B. D., Garrett, D. M., & Maki, D. M. (2001). Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, 80(3), 435–465.
4. Choi, J. J., Laibson, D., & Madrian, B. C. (2009). Why does the law of one price fail? An experiment on index mutual funds. *The Review of Financial Studies*, 23(4), 1405–1432. <https://doi.org/10.1093/rfs/hhp097>
5. Fernandes, D., Lynch, J. G., & Netemeyer, R. G. (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*, 60(8), 1861–1883. <https://doi.org/10.1287/mnsc.2013.1849>

- 
6. Financial literacy survey findings. (2012). State of Israel, Central Bureau of Statistics. 11.9.12, 4.11.12 [Hebrew]
  7. Fox, J., Bartholomae, S., & Lee, J. (2005). Building the case for financial education. *Journal of Consumer Affairs*, 39(1), 195–214. <https://doi.org/10.1111/j.1745-6606.2005.00009.x>
  8. Gross, K., Ingham, J., & Matasar, R. (2005). Strong palliative, but not a panacea: Results of an experiment teaching students about financial literacy. *Journal of Student Financial Aid*, 35/2(1).
  9. Hastings, J. S., Madrian, B. C., & Skimmyhorn, W. L. (2013). Financial literacy, financial education, and economic outcomes. *Annual Review of Economics*, 5(1), 347–373. <https://doi.org/10.1146/annurev-economics-082312-125807>
  10. Hira, T. K. (1997). Financial attitudes, beliefs and behaviours: Differences by age. *Journal of Consumer Studies and Home Economics*, 21(3), 271–290. <https://doi.org/10.1111/j.1470-6431.1997.tb00288.x>
  11. Hira, T. K. (2009). Personal finance: Past, present and future. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1522299>
  12. Hopley, V., & Cleveland. (2003). Financial education: What is it and what makes it so important? Spring 2003. Federal Reserve Bank of Cleveland.
  13. Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs*, 44(2), 296–316. <https://doi.org/10.1111/j.1745-6606.2010.01170.x>
  14. Israeli Ministry of Education. (2014). Initial financial literacy results in PISA 2012. 206 National Authority for Measurement and Evaluation in Education [Hebrew].
  15. Jessup, R. K., Bishara, A. J., & Busemeyer, J. R. (2008). Feedback produces divergence from prospect theory in descriptive choice. *Psychological Science*, 19(10), 1015–1022. <https://doi.org/10.1111/j.1467-9280.2008.02193.x>
  16. Krechovská, M. (2015). Financial literacy as a path to sustainability. *Trendy v Podnikání*, 5(2), 3–12.
  17. Lusardi, A. (2008). Household saving behavior: The role of financial literacy, information, and financial education programs. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1094102>
  18. Lusardi, A. (2015). Financial literacy skills for the 21st century: Evidence from PISA. *Journal of Consumer Affairs*, 49(3), 639–659. <https://doi.org/10.1111/joca.12099>
  19. Lusardi, A., & Lopez, A. (2016). Financial literacy among high school students in the United States: Evidence from the 2012 programme for international student assessment (PISA). European Investment Bank Institute Working Paper.
  20. Lusardi, A., & Mitchell, O. S. (2008). Planning and financial literacy: How do women fare? *American Economic Review*, 98(2), 413–417. <https://doi.org/10.1257/aer.98.2.413>
  21. Lusardi, A., & Mitchell, O. S. (2011a). Financial literacy and planning implications for retirement wellbeing. Cambridge, Mass. National Bureau of Economic Research.
  22. Lusardi, A., & Mitchell, O. S. (2011b). Financial literacy around the world: an overview. *Journal of Pension Economics and Finance*, 10(4), 497–508. <https://doi.org/10.1017/s1474747211000448>
  23. Mitchell, O. S., & Lusardi, A. (2015). Financial literacy and economic outcomes: Evidence and policy implications. *The Journal of Retirement*, 3(1), 107–114.

- 
24. Lusardi, A., Mitchell, O. S., & Curto, V. (2009, September 17). Financial literacy among the young: Evidence and implications for consumer policy. National Bureau of Economic Research Working Paper Series. <http://www.nber.org/papers/w15352>
  25. Marchiori, D., Di Guida, S., & Erev, I. (2015). Noisy retrieval models of over- and undersensitivity to rare events. *Decision*, 2(2), 82–106. <https://doi.org/10.1037/dec0000023>
  26. Michael Collins, J., & Odders-White, E. (2015). A framework for developing and testing financial capability education programs targeted to elementary schools. *The Journal of Economic Education*, 46(1), 105–120. <https://doi.org/10.1080/00220485.2014.976325>
  27. OECD. (2005a). Recommendation on principles and good practices for financial education.
  28. OECD. (2005b). Improving financial literacy. OECD publishing. <https://doi.org/10.1787/9789264012578-en>
  29. OECD/INFE. (2009). Financial education and the crisis: Policy paper and guidance.
  30. OECD. (2013). PISA 2012 assessment and analytical framework. In PISA. OECD Publishing. <https://doi.org/10.1787/9789264190511-en>
  31. PISA 2012 financial literacy framework. (2012). In Pisa 2012 assessment and analytical framework. Mathematics, reading, science, problem solving and financial literacy (pp. 139–165). OECD Publishing. <https://doi.org/10.1787/9789264190511-7-en>
  32. PISA 2012 Results: Students and money (Volume VI). (2014). In PISA. OECD. <https://doi.org/10.1787/9789264208094-en>
  33. Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs*, 44(2), 276–295. <https://doi.org/10.1111/j.1745-6606.2010.01169.x>
  34. Schuchardt, J., Bagwell, D. C., Bailey, W. C., DeVaney, S. A., Grable, J. E., Leech, I. E., Lown, J. M., Sharpe, D. L., & Xiao, J. J. (2007). Financial executive orientation, information source, and financial satisfaction of young adults. *Journal of Financial Counseling and Planning*, 18(1).
  35. Stango, V., & Zinman, J. (2009). Exponential Growth Bias and Household Finance. *The Journal of Finance*, 64(6), 2807–2849. <https://doi.org/10.1111/j.1540-6261.2009.01518.x>
  36. Stolper, O. A., & Walter, A. (2017). Financial literacy, financial advice, and financial behavior. *Journal of Business Economics*, 87(5), 581–643. <https://doi.org/10.1007/s11573-017-0853-9>

---

### **III. Guidelines for future research on the topic of the dissertation**

The main research directions included in the scope of the dissertation on issues related to the need to increase the financial literacy of young people and the formation of models for effective management of personal cash flows, suggest deepening scientific research in this direction. The proven relevance of the topic in the research determines the scope of future scientific research, as follows:

1. The creation of a general questionnaire to systematically measure the level of financial knowledge among students in Israel.
2. Carrying out studies to examine the effects of financial programs currently implemented in the education system and the extent of their impact on the level of financial literacy of students.
3. The development of different variants of curricula applicable to the education of young people, aimed at increasing their financial knowledge and creating sustainable models of effective economic behaviour of students in Israel.

---

#### **IV. Information about the scientific and scientific-applied contributions in the dissertation**

**First.** The topicality of the issues related to the need to increase the financial literacy of young people and the formation of models for effective management of personal cash flows has been proven.

**Second.** The main characteristics of the models of financial behaviour of individuals from the standpoint of classical and neoclassical synthesis are presented.

**Third.** Based on a comparative analysis of scientific research on the level of financial literacy among the population of many countries around the world, the main problems caused by the unsatisfactory level of financial literacy of the population in them are identified. Based on these findings, the guidelines are outlined and recommendations are made for taking concrete actions to increase the financial literacy of the population and, in particular, of students in Israel.

**Fourth.** In order to determine the level of financial literacy of Israeli students, a unique questionnaire was developed, covering all possible aspects and factors influencing the patterns of financial behaviour.

**Fifth.** Based on the analysis of the results of the study on the level of financial literacy of 618 students from Israel, views expressed on the scope of curricula to increase financial literacy and ways to conduct effective training in managing personal financial flows.

---

## V. LIST OF PH.D. STUDENTS 'PUBLICATIONS

**1. FINANCIAL LITERACY LEVEL OF HIGH SCHOOL TUDENTS AND ITS ECONOMIC PATTERNS REFLECTIONS, Almanac of PhD Students, 2019, vol. 15, issue 15 Year 2019, 518-537**

<https://dlib.uni-svishtov.bg/bitstream/handle/10610/4291/b30142dfe34d1394cdd94e580b5b0445.pdf?sequence=1&isAllowed=y>

**2. THE IMPACT OF FINANCIAL EDUCATION PROGRAMS IN ISRAEL AND THE FAMILY DISCUSSION ON FINANCIAL MATTERS ON THE BEHAVIOR OF YOUTH, Almanac of PhD Students, 2021, (под печат – приложена служебна бележка)**

**3. THE EFFECT OF MATHEMATICAL SKILLS ON THE LEVEL OF FINANCIAL LITERACY OF HIGH SCHOOL STUDENTS IN ISRAEL**  
International Electronic Scientific and Practical Journal «WayScience», Volume 4 (No 2). Ukraine, Dnipro: FOP Marenichenko V.V., 2021, 183 p.

<https://dlib.uni-svishtov.bg/bitstream/handle/10610/4291/b30142dfe34d1394cdd94e580b5b0445.pdf?sequence=1&isAllowed=y>

**4. FINANCIAL BEHAVIOR OF THE HOUSEHOLD AND THE INDIVIDUAL: SOME ASPECTS OF THEORETICAL ANALYSIS, Radulova, A, Yaakov Itach – Israel., Научен атлас, Електронно научно списание, ISSN 2738-7518**

<https://scientificatlas.com/article/financial-behavior-of-the-household-and-the-individual-some-aspects-of-theoretical-analysis>

---

---

**VI. Information for compliance with the national requirements under the Regulations for application of the Law for the development of the academic staff in the Republic of Bulgaria**

**National number of points requirement: 30**

---

**Number of studies indexed in NACID: 1 pc.**

**Number of points from articles indexed in NACID: 15.00**

**Number of studies indexed in NACID: 3 pcs.**

**Number of points from articles indexed in NACID: 25.00**

**Number of reports indexed in NACID: 1 pc.**

**Points reported by the author through scientific reports: 10.00**

**Total points: 40.00 > 30.00**

---

---

**DECLARATION OF ORIGINALITY AND ASSURANCE  
of dissertation work**

From Yaakov Itach

In connection with the procedure for obtaining the educational and scientific degree “Doctor” in the scientific specialty “Finance, Money Circulation, Credit and Insurance (Finance)”, I declare that:

1. The results and contributions to the dissertation on “**Measuring the level of financial literacy among high school students in Israel, and its impact on their economic patterns**” are original and are not borrowed from research and publications in which the author has no participation.

2. The information presented by the author in the form of copies of documents and publications, personally compiled reports, etc. corresponds to the objective truth.

3. The results obtained, described and / or published by other authors are duly and in detail cited in the bibliography.

DATE 07.06.2022

Svishtov

PhD student:.....*Yaakov Itach*  
