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Improving Financial Literacy

Case Study of Financial Education in Schools in Estonia

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The thesis discusses the problem of low financial literacy levels that people have in today's world and how financial literacy levels can be improved through school education. It is identified that financial literacy is a complex problem requiring a complex solution (which is yet to be discovered). Financial education can only be part of this complex solution. Even so, financial education encounters similar problems as traditional education: the decay of knowledge and effective retention of learned material. More research should be conducted on the effectiveness of financial education. At the moment, studies in this field show controversial results.

The research uses Estonia as a case study country. Quantitative data about financial literacy levels of Estonians is gathered from an OECD 2012 pilot study analysis. The results indicate respondents' relative competency regarding the theoretical side of financial literacy but at the same time there is a need for a shift in behaviours and attitudes. To understand current financial education efforts made in Estonia, an interview with a specialist from the Department of Education of Estonia is conducted. The analysis of qualitative data from the interview shows that financial education in schools in Estonia is taught but not on a wide scale. Only a selected number of schools have such courses in the form of electives. However, the existing courses were introduced due to demand from either students or their parents, so if this demand stays strong in the future, more educational efforts will be seen.

Keywords	Financial literacy, financial education

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> Just as it was not possible to live in an industrialized society without print literacy—the ability to read and write, so it is not possible to live in today's world without being financially literate… Financial literacy is an essential tool for anyone who wants to be able to succeed in today's society, make sound financial decisions, and—ultimately—be a good citizen. [Annamaria Lusardi (2011)[1]]

1 Introduction

The importance of financial literacy is growing in today's world. Several environmental changes over the past years – changes in the pension system, financialization[2] of the economies and the liberalization of the financial sector – have made it essential for an individual to be financially literate in order to improve financial well-being.

Firstly, the responsibility for retirement savings has shifted from governments and employers onto individuals. It is illustrated by the change in the pension system from defined benefits to defined contributions. Peoples' contribution towards retirement savings accounts determines the quality of life they will expect when retired. In order to take advantage of the new system it is important to be knowledgeable about investing, understand financial language, understand personal risk tolerance, taxation regulations and many more.

Secondly, savings rates have decreased for the past years. Many people prioritize short-term wants over long-term goals which make it unlikely that they will possess some form of emergency savings (Atkinson & Messy, 2012:9). Also, saving has become psychologically difficult because of the constant pressure of advertisements that encourage spending and consumption. At the same time, liberalization of the financial sector made loans easily available. People are tempted to finance their purchases with the money they do not have at the moment, due to lack of financial planning or desire to live above their means. The absence of an emergency fund increases the chances of indebtedness and bankruptcy to occur when unexpected events, such as job loss, happen.

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[1] Cited in Hastings et al. (2012:3)

[2] Financialization – An increase in the size and importance of a country's financial sector relative to its overall economy (Investopedia).

Thirdly, financial services are becoming more and more complex due to financial innovation which is supported by fast paced technological growth. Financial products are sold in bundles often consisting of products or services that, because of their complexity, are not needed for the customer, nor are they understood by him, but for which the customer still pays money. Although financial advisors' services exist, not many people use them, due to irrational confidence in personal financial knowledge.

The purpose of financial education is to provide individuals with various tools and knowledge that will improve their financial decision making ability in modern economies. This thesis discusses how financial literacy levels can be improved through school education. Estonia is chosen as a case study country. Information about financial literacy levels of Estonians is gathered from an OECD 2012 pilot study analysis. The results indicate respondents' competency in theoretical knowledge but at the same time there is a need for change in behaviours and attitudes. In addition to this, an interview with a specialist from the Department of Education of Estonia is conducted in order to see what efforts are being made towards improving financial literacy in Estonia. Surprisingly, the interviewee was not aware of the OECD 2012 pilot study results. Nevertheless, the interviewee managed to provide valuable information about the variety of financial education efforts made in Estonia and also expressed personal opinions about cumulative financial education, teachers' qualifications and course design.

Chapter 2 begins by looking at various definitions of financial literacy and compiling a list of characteristics that represent a financially literate person. A financially literate person is equipped with both theoretical knowledge and a practical skillset. One must also possess traits like self-control, confidence and decisiveness.

Next, the importance of financial literacy in today's world is discussed. The changes that happened during the past decades are highlighted: the shift in demographics, fast paced financial innovation, decreased savings rate and increased indebtedness. Moreover, results from the OECD pilot study and the Jump$tart Coalition on Financial Literacy are analysed which helps to determine financial literacy levels among adults and youth. Both studies show that regardless of the country where financial literacy is measured, on average it is quite low and that some form of intervention is required in order to improve the results.

In chapter 3 I discuss what the concept of financial education is. The definitions of financial education are also provided. These definitions highlight what the most important factors of financial education are. Furthermore, I highlight different forms of financial education: traditional and modern. The criticism of financial education as well as of studies on financial education is also covered in this chapter.

In chapter 4 different aspects of financial education in schools are covered. Firstly, I highlight the benefits of providing financial education specifically at this point of time in a person's life. Secondly, characteristics of a well-designed financial course are provided. The recommendations are taken from the US Treasury Department's Office of Financial Education and the Jump$tart Coalition Best Practices for Personal Finance Education Materials. These guidelines were developed after many years of practice and can be used by educators for effective course design. To balance everything out I write a sub-chapter about limitations of providing financial education in schools. The main obstacles are connected to teachers' qualifications and the nature of the audience.

Lastly, the interview analysis is presented in chapter 5. The goal of the interview was to gather information about different areas that were covered in the thesis: Estonia's results in the OECD 2012 pilot study, financial education course design and content, and future expectations in this field in Estonia. I begin by stating the reason why interview was identified as a suitable method for gathering data. Then I shortly touch upon how the interview was conducted. And finally, I write a section about the interview analysis where I interpret the answers I received from the specialist of the Department of Education of Estonia. Full interview with questions, answers and translation can be found in Appendix 1.

2 What is Financial Literacy?

2.1 Definitions and Characteristics

Although different sources provide different definitions of financial literacy, a consistent theme runs through them: "an individual's ability to acquire essential knowledge and skills in order to make decisions with an awareness of the possible financial consequences" (Widdowson & Hailwood, 2007:37). However, it is important to elaborate on what knowledge and skills are considered essential.

Researchers Goel and Khanna in their paper about the importance of financial education in achieving financial literacy presented several definitions of financial literacy. All of them highlight the importance of the ability to analyse information prior to making a financial decision. One of the oldest definitions of financial literacy states that financial literacy is "the ability to make informed judgments and to take effective decisions regarding the use and management of money" (Noctor, et al. 1992 cited in Goel & Khanna:339).

The U.S. Financial Literacy and Education Commission (cited in Basu, 2005:2) defines financial literacy as "the ability to make informed judgments and to take effective actions regarding the current and future use and management of money". The definition is somewhat similar to the one suggested by Noctor et al. (1992). The difference is that the importance of taking into consideration time horizons in financial decision making is highlighted.

Remund (2010:279) provides a very basic definition of financial literacy: "financial literacy relates to a person's competency for managing money". Further, Remund (2010) conducted a review of research studies since 2000 and identified five categories where the conceptual definitions of financial literacy fall:

1. Knowledge of financial concepts;
2. Ability to communicate about financial concepts;
3. Aptitude in managing personal finances;
4. Skill in making appropriate financial decisions;
5. Confidence in planning effectively for future financial needs.

In their study Widdowson and Hailwood (2007:37) outline a list of several important skills, based on their review of definitions, a financially literate person should possess:

- Basic numeracy skills;
- An understanding of the benefits and risks associated with particular financial decisions;
- The ability to understand basic financial concepts. These are "budgeting and money management, short and long term financial plans, financial product choice" (Atkinson & Messy, 2012:6);
- The capacity to know when to seek for professional advice.

As you can see, there are many different definitions of financial literacy. What is common among them is an emphasis on a set of key skills a person should possess in order to be financially literate. These skills can be acquired through the process of financial education. In the following section I present evidence of why being financially literate becomes increasingly important in today's world.

2.2 The Importance of Financial Literacy

Throughout their lives people make a wide variety of financial decisions. "Examples of such decisions include saving for retirement, managing credit wisely, budgeting, tax and estate planning, insurance etc." (Basu, 2005:2). In order to make the right decision one must possess the financial literacy traits described in the previous chapter.

In addition to this, a lot of research points to the fact that people's financial literacy levels are low.[3] Evidence from OECD pilot study analysis on financial literacy highlights specifically of which areas of finance people lack understanding (Atkinson and Messy, 2012). Also, I review literature on financial literacy levels of youth in US. From the evidence gathered it can be seen that financial literacy does not improve with age if no

[3] There is evidence that financial literacy among youth is low (in some cases has decreased for the past years). More information is presented in section 1.2.6.

specific measures are taken to purposefully improve it (OECD, 2005; Mandell, 2006; 2008).

Financial decisions arise from a particular need, be it maintaining the standard of living after one has ceased work, avoiding debt, protection of dependents in case of premature death of the provider, etc. Being financially literate helps to identify exactly what the need is and helps avoiding situations when unneeded financial products are purchased.[4] For example, when a person decides to purchase a life insurance in order to protect his dependents, "the individual must understand that the protection being afforded should exist as long as their career and related incomes require a substitute, contingent income. In other words, the primary objective of managing this pure risk is of a finite term, i.e. the rest of their working life. Hence the instrument they purchase should be for this duration as well" (Basu, 2005:4).

2.2.1 Changes in Financial Environment

However, it is not only because of the decision making process that being financially literate is important. The environment in which these decisions are made also changes constantly. In his paper Orton highlights these different environmental factors:

> …the demographic profiles are changing, financial sectors are growing complex, personal savings are decreasing while personal indebtedness is increasing, and government resources are limited (Orton, 2007:3).

Given the above mentioned points, combined with an increasing severity of consequences of bad financial decisions and ever growing desire of financial companies for profits[5], it can be concluded that modern financial environment is quite hostile for

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[4] Many companies try to persuade customers to purchase additional products, especially when it comes to life insurance, because customers are often emotionally vulnerable when the question is about well-being of their dependents and they fail to rationally assess the appropriateness of one financial product over the other.

[5] For example, "[c]redit card issuers obtain about 80 percent of their revenues from finance charges and penalty fees, and, therefore, earn more on accounts that pay late, exceed credit limits, and/or do not pay off balances each month than they do on accounts that produce only merchant fees" (GAO, 2006 quoted in Willis, 2008:7).

those with low financial education levels. Becoming financially literate is one of the ways to adapt to such environment.

2.2.2 Demographics

The changes in demographics are a result of the baby boomer generation having fewer children and entering retirement "wealthier, healthier and longer-lived than any previous generation" (Hamilton and Hamilton, 2006:3). These changes will put a large pressure on governmental finances as a significant cohort of baby boomers enters retirement with a smaller workforce to support them during one of the longest retirement periods in history.

This also resulted in an increased importance of self-reliance during retirement and the importance of saving earlier to support the desired standard of living. Financially literate people understand the power of compounding and the benefits it provides. This understanding makes long-term saving bearable. Moreover, financial literacy implies the ability of long-term planning. This ability positively impacts saving behaviour and contributes to increased self-reliance.

2.2.3 Financial Innovation

Financial products' innovation can make it difficult for financial education to keep up, but the goal of education should be to equip people with the necessary tools that help them navigate the ever changing financial industry. When it comes to complex financial products, one such tool is the ability to recognize the boundaries of one's knowledge and seek professional advice when purchase of such products is considered. In the OECD 2012 survey results the authors were concerned that while people showed poor results in the survey there was a general tendency to overrate levels of financial knowledge respondents actually had. Willis (2008) explains why in financial education it is difficult to provide up-to-date information on various financial products:

> "Not only do sellers have access to more information and resources to analyse it, but by the time the latest insurance, credit, or investment developments filter through educators to consumers, the marketplace will have changed. Outdated lessons may be not only irrelevant, but counterproductive." (Willis, 2008:8).

Financial literacy can help people to assess their knowledge about different financial products objectively. Therefore, in a highly specialized world that we live in today, it is much more efficient to seek advice from professionals. It is their job to keep up with the innovation of the financial industry.

2.2.4 Decreased savings and increased indebtedness

Lack of financial education is one of the causes of decreased savings rate and increased debt. In the paper about the effectiveness of financial education on saving behaviour Lusardi (2004) uses data from Health and Retirement Study and concludes that many households "arrive close to retirement with little or no wealth" (Lusardi, 2004:9). This was especially evident among families with low education levels. However, Lusardi (2004:2) estimates that … "by offering financial education, wealth can be increased sharply, closely to 20 percent in the total sample, but much more for families at the bottom of the distribution and those with low education".

Increased indebtedness is partly caused by "expanding availability of credit options" (Lerman and Bell, 2006:31) and poor personal finance management. The former is due to financial innovation and the latter is caused by low financial literacy. An example of poor money management could be an excessive use of credit for consumption purposes. The usual advice given on personal finance forums to users is "to live below one's means" and abstaining from purchases that one cannot afford to pay with cash.

Changes in pensions are also an important environmental factor which should be taken into account. The trend is that the responsibility for providing for people during retirement shifted from defined benefit to defined contributions. "In the former, employers assume responsibility and risk. In the latter, individuals assume responsibility for investing and the risk of the investment" (Orton, 2007:4). In [defined contribution] plans, workers must choose not only the amount of contributions but also, in many cases, how to allocate their pension saving (Lusardi, 2004:5). In some banks in Estonia, for example, a person can choose a pension plan with different bond-to-equity ratios. These plans are conveniently divided according to client's age. For a younger person (below 34 years old) the suggested portfolio is 75% equities and 25%

bonds ("aggressive growth portfolio"). For a senior client, depending on their risk tolerance, the suggested portfolio is 100% bonds. However, this can also be changed as desired by the client. This allocation can be explained by the fact that … "the risk-taking part of financial decisions should be made more at the early stages [of life] and gradually decline over the life cycle." (Basu, 2005:4). Being financially literate helps to understand the nuances in financial products and also helps to identify one's risk tolerance. The latter has a great impact on the choice of a financial product. A quote from OECD (2005) clearly illustrates some of the benefits of being financially literate:

> "By providing accurate, objective, and easily understandable information, such as discussion of investment terms and descriptions of the features of different types of investment, and by equipping workers with the skills to absorb this information, financial education can help them select the investment products and services that are most appropriate for their individual situations." (OECD 2005: 51).

2.2.5 Financial Literacy Levels of Adults in Estonia

The information about the levels of financial literacy in Estonia is taken from the OECD (Atkinson & Messy, 2012) pilot study analysis. The youngest respondent's age group is 20-29. I use this survey to indicate the levels of knowledge among adults (20 could be considered young adults). In the next section I present evidence that financial literacy levels of youth also need significant improvements. The goal is to compare the levels of financial knowledge between youth and adults. I conclude that financial literacy levels of both groups are low regardless of the location and demographics.

Researchers conclude that Estonians tend to score relatively well (although, not perfect) on questions about financial knowledge (i.e. knowledge of financial concepts). However, when it comes to positive financial behaviour and attitudes towards long-term planning, respondents from Estonia scored among the lowest. Low scores in questions about positive financial behaviour could be explained by the lack of organizational skills and poor management of personal finances. Furthermore, low scores in questions about attitudes towards future could indicate "disengagement with long term planning" (Atkinson & Messy, 2012:24). In addition to this, the data from the survey indicates that certain behaviours are a result of peoples' attitudes towards money and the future.

In their work Atkinson and Messy (2012) analyse the results of the OECD International Network of Financial Education pilot study which was undertaken in 14 countries. "The analysis focuses on variations in financial knowledge, behaviour and attitude across countries and within countries by socio-demographics." (Atkinson and Messy, 2012:3). I will focus my analysis around results from Estonia because other countries are out of the scope of this research. However, the general trend across other countries is that financial literacy levels are inadequate for today's world's financial sector environment. Not only do people lack understanding of basic financial concepts, also their financial behaviour requires significant improvement. Researchers also concluded that attitudes vary widely, but they are still closely linked to respondents' behaviour, which can be seen from the survey results.

> Core questions within the survey cover financial knowledge, behaviour and attitudes relating to various aspects of financial literacy including budgeting and money management, short and long term financial plans, and financial product choice (Atkinson & Messy, 2012:6).

Financial Knowledge

A financially literate person is defined by Atkinson and Messy as a person who has "some basic knowledge of key financial concepts." (2012:6). They determine the levels of knowledge by asking 8 different questions covering the following key topics which in their opinion do not require expert knowledge to answer: 1) division; 2) time value of money; 3) interest paid on loan; 4) calculation of interest plus principle; 5) compound interest and correct answer to previous question; 6) risk and return; 7) definition of inflation; 8) diversification. The results are then shown as a percentage of correct answers to these questions.[6] Estonia scored relatively well (above 70%) on 5 areas of knowledge: division, time value of money, interest paid on loan, risk and return, definition of inflation. The result was slightly worse on the arithmetic question about calculation of interest plus principle (only 64% answered correctly). The results for the follow up question about calculating compound interest were even less (only 31% answered correctly). Another area in which respondents from Estonia need significant improvement is the understanding of the concept of diversification of risk (only 57% answered correctly). Below is a part of the table taken from the report:

[6] For more information about the questions used see Table 5 in Atkinson and Messy (2012:17).

	Division	Time-value of money	Interest paid on loan	Calculation of interest plus principle	Compound interest and correct answer to previous question	Risk and return	Definition of inflation	Diversification
Albania	89%	61%		40%	10%	77%	81%	63%
Armenia	86%	83%	87%	53%	18%	67%	57%	59%
Czech Republic	93%	80%	88%	60%	32%	81%	70%	54%
Estonia	93%	86%	84%	64%	31%	72%	85%	57%

Figure 1. Financial knowledge results. Table taken from the OECD pilot study analysis by Atkinson and Messy (2012:7).

Financial Behaviour

Financial behaviour is an important factor when studying financial literacy. From the survey it can be seen that the differences vary significantly by country. One explanation could be cultural differences. For example, in Malaysia a strong saving culture can be observed, because 97% of respondents are active savers. However, when it comes to purchasing financial instruments, only 3% of respondents actually shopped around before making such purchase. With regards to Estonia, even though financial behaviour scores are relatively high in first three categories: careful purchase consideration (68%), payment of bills on time (83%), and close observation of personal finance affairs (78%), Estonians still showed poor results when it comes to long term planning – less than half of respondents actually plan their finances in advance. Furthermore, only 28% of all respondents have a household budget. If we look further at the results of financial product choice section, we can see that only 36% of respondents are active savers and/or investors. This data can possibly hint that many respondents are concerned mostly with short-term financial planning or no planning at all. Although more than half of respondents carefully consider their purchases, only 24% of people gather information or shop around and 8% use professional advice before making an investment decision. Lastly, although 78% of respondents claimed they did not borrow money to make ends meet, there were people who did so. The reason could be also related to insufficient financial planning for the future.

	Behaviour statements						Financial product choice		
	Carefully considers purchases	Pays bills on time	Keeps close watch on personal financial affairs	Sets long term goals and strives to achieve them	Responsible and has a household budget	Has been actively saving or buying investments in the past year	…after gathering some info	… after shopping around and using independent info or advice	Has not borrowed to make ends meet
Albania	87%	77%	71%	30%	59%	42%	49%	2%	69%
Armenia	91%	94%	81%	58%	51%	36%	42%		53%
Czech Republic	75%	85%	76%	36%	37%	72%	28%	10%	89%
Estonia	68%	83%	78%	41%	28%	36%	24%	8%	78%

Figure 2. Positive financial behaviours by country (Atkinson & Messy, 2012:8).

Attitudes

Attitudes towards money are closely linked to the behaviour exhibited by the respondents. From the previous paragraph we can see that few Estonians prefer long term planning and even less of them manage their spending by having a household budget. This can be explained by the fact that most of the respondents from Estonia prefer to live for today. Indeed, if we look at the data from the questions related to attitudes, we can see that only 49% disagree with the following statement: "I tend to live for today and let tomorrow take care of itself". Even less respondents disagree with the fact that money is there to be spent (24% respondents). Generally, people tend to prefer spending money over saving it for future needs. This can be linked with the fact the people do not set any financial goals for themselves, be it long-term saving for retirement or even saving for a big purchase like electronics. This can partly be explained by an easy access to financing purchases which eliminates the need for planning and saving.

	Disagrees with the following attitude statements:		
	I find it more satisfying to spend than save it for the long term	I tend to live for today and let tomorrow take care of itself	Money is there to be spent
Albania	61%	66%	45%
Armenia	8%	60%	2%
Czech Republic	45%	69%	29%
Estonia	39%	49%	24%

Figure 3. Attitudes towards longer term (Atkinson & Messy, 2012:9).

Pilot Study Analysis Conclusion

Based on the definition of Atkinson and Messy (2012) about what constitutes a financially knowledgeable person, we can argue that Estonians scored relatively well in this area with some aspects of financial knowledge lagging (i.e. diversification and arithmetic question about compound interest calculation). However, when it comes to planning for the future, Estonians tend to score relatively low. This is troubling evidence because as we know attitude is closely linked to the behaviour and we can see it from the data provided in the survey results. Financial education can help changing peoples' attitudes towards money. Knowing that people possess some degree of knowledge of financial concepts but lack positive attitudes and behaviour can help in tailoring financial education to address these areas of development.

2.2.6 Financial Literacy Levels of Youth are Low

Numerous surveys have been undertaken in various countries of the world. The results of these surveys indicate that financial literacy of both youth and adults are low. In the following section I have gathered results from OECD study on financial literacy of youth. The OECD study looks at different surveys conducted in the United States, Korea, the United Kingdom, etc. Results of different studies have been analysed and main issues were summarized. After that I look at the results of the Jump$tart Coalition surveys conducted in the United States. These surveys also focus on the financial literacy of youth. Both the OECD study and Jump$tart Coalition surveys show that considerable room for improvement of financial literacy exists. The Jump$tart Coalition surveys in particular indicate that financial literacy of youth is declining.

OECD Study Findings

There is abundant evidence that levels of financial literacy of youth are low. In some countries financial literacy levels among youth actually fell in recent years. For example, results of financial literacy tests of 12th graders in US are rather troubling. Every two years Mandell analyses this segment's financial literacy levels and summarizes the findings in the Jump$tart Financial Literacy survey. He came to a conclusion that financial literacy levels have "declined from about 57% in 1997 to about 50% in 2002." (Mandell, 2006:58). Although there was a slight increase in 2004, the author is rather pessimistic about future test results.

Low survey results can be seen in many different countries. The evidence suggests that the problem is not tied to a specific location. OECD (2005) reviews surveys conducted in various countries and concludes that financial literacy of youth is rather low. Below are findings concerning the younger population:

- High school Students in Korea and US answered less than 60 per cent of questions about credit cards, saving for retirement and financial risk management correctly.
- Ownership of stocks by students did not result in them having higher test results.
- Students that discussed financial issues with their parents had higher (although not passing) test results.
- Students with savings and checking accounts had higher test results than those who did not.
- In the United Kingdom respondents aged 18-24 were characterized as least receptive consumers – uninterested, unconfident, and least active.
- In Korea and US, students from families with less educated parents and/or students who have low income and professional expectations score the lowest.
- Researchers identified a trend across different countries – many students are overconfident in their knowledge of finance.[7] While 67 per cent of respondents stated that they are confident in their knowledge of financial concepts, only 28 per cent managed to apply this knowledge correctly in solving a problem.

Results of the Jump$tart Coalition Survey on Financial Literacy Among High School Students

The following section is a review of the Jump$tart Coalition survey results. The survey measures financial literacy of both high school and college students. Since performance of college students is out of scope of my research, only performance of high school students is reviewed.

Jump$tart Coalition recognized the problem of low financial literacy levels back in 1997 when the first base line survey was conducted. I begin with a short review of the base line survey results and compare them with the results of 2008 survey. The results of this comparison are quite daunting – despite the fact that the problem of financial

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[7] This trend was also noticed among adult respondents from different OECD countries in the analysis by Atkinson and Messy (2012).

illiteracy of high school students was recognized and specific measures to improve the literacy were taken (one being introduction of financial education into the curriculum), improvements in the survey results are not seen. A short review of the baseline survey results is then followed by a throughout analysis of the results of 2008 survey.

Jump$tart Base Line Survey Results in 1997-98 and Subsequent Survey Results – What is the trend?

"[T]he average "grade" on the [baseline survey] was a failing 57.3 percent" (Mandell, 2008:7). And contrary to optimistic forecast of the Jump$tart Coalition that financial literacy levels should increase by 2008, the results actually decreased. After 10 years the results of the 2008 Jump$tart survey show that financial literacy levels were at their lowest point with a score of 48.3 per cent.

The creators of the survey identified 4 key areas that they subsequently measured: (1) income; (2) money management; (3) saving and investing; and (4) spending and credit. The questions and case studies were tailored to the young audience.

The content of the Jump$tart Coalition survey stayed the same for 10 years. Only slight cosmetic changes were made (e.g. "the ordering of questions has been changed in each survey, as was the ordering of answers to each of the questions", 2008:10).

Overall Financial Literacy of High School Students

Mandell (2008) analysed the survey results of high school students from different perspectives. In subsequent sections his findings are summarized. First, he looked at the differences in results by socio-economic and demographic factors. Second, he tried to understand how students' educational and professional aspirations are reflected in the survey results. Third, he compared performance of students who took some form of financial literacy course with those who did not participate in such courses. Fourth, the effect of previous money management experience (i.e. use of credit cards, existence of bank accounts, employment history, etc.) on test results is analysed. Lastly, the survey results were divided by subject categories to evaluate the performance in each category.

Financial Literacy Correlates with Students' Background

Children from wealthier families scored better in the test than those from families with lower income. "Of those students whose parents' income totalled less than $20,000 per year, the mean score was 43.4 percent in contrast to an average of 52.3 percent for students whose parents' income was more than $80,000." (Mandell, 2008:12). However, in some cases students from wealthiest families scored worse which suggests that family income is not the main cause of higher test scores. Mandell proposes a hypothesis which suggests the following: a low financial literacy level is a social problem and the first group to tackle this problem is innovators whose solutions are then tested by the early adopters. According to Mandell's findings, "[E]arly adopters of programs designed to address the problems of financial literacy appear to be the more affluent private and public high schools who are both more aware of the problem and less constrained by resources than other schools." (2008:12). Increasing levels of financial literacy of wealthier children in turn causes another problem – increasing inequality between rich and the poor because "financial well-being is a function of both financial resources and financial literacy." (Mandell, 2008:13).

Children from families with educated parents on average scored 7,6 per cent better than children from families where "neither parent completed high school" (Mandell, 2008:13).

Results by Students' Educational and Professional Aspirations

Financial literacy strongly correlates with students' educational and professional aspirations. Students who did not plan further education after high school scored the lowest 34.9 per cent (results from 2008 survey). For comparison, those students who planned to attend a 4-year college scored 50.9 per cent. In addition to this, the expected full-time income of students that ranges between below $15,000 and $30,000 positively, but not strongly, correlates with test scores. While students who expected their full-time income to be below $15,000 scored 38.5 per cent, those who expected their income to be $30,000 or more scored 50.7 per cent.

The Effects of Financial Literacy Courses

Mandell (2008) looked into how participation in a full year financial literacy course affected the test results. He also examined the effects of playing a stock market game – an interactive investing simulation. The results could be rather discouraging for financial education advocates because those students who participated in financial literacy courses did not show any improvements compared to those who did not take such course. However, those students who played the stock market game scored higher in financial literacy tests (scoring higher primarily in questions related to investment boosted the average score of this group). This could indicate that students are more responsive to interactive types of education rather than traditional forms of lectures.

The Effects of Previous Money Management Experience

Based on the survey results, previous money management experience showed having little positive impact on the test scores. Although those students who performed some kind of work for money and those students who owned a bank account showed higher results, the difference is not significant.

Results by Subject Category

To understand in which areas students are most knowledgeable and least knowledgeable, Mandell (2008) divided the survey questions into four main categories: income, money management, savings and investing, and spending. Results of the 2008 survey show that students achieved the highest score in questions related to income (56.1 per cent). Followed by spending with an average score of 50.8 per cent. Followed by questions about credit (44.1 per cent) and saving (43.2 per cent). The lowest scores relate to money management questions. These findings help educators to address particular areas of development of students. Furthermore, Mandell (2008) compared the results of students who took part in financial literacy course against students who did not attend such course. The results again show that financial literacy courses had little impact on survey results.

2.2.7 Chapter 2 Conclusion

People’s knowledge about financial concepts is inadequate for successful navigation in modern financial industry. The knowledge that people possess about financial concepts is adequate for a period of time prior to rapid financial innovation (roughly 30-40 years ago) when financial products and services were much simpler. It can be concluded that the financial industry’s innovation has outpaced people’s learning rate.

Much has changed in the financial environment – individuals' responsibility increased dramatically over the past years, financial services and products became more complex, the consequences of bad financial decisions became more severe. People, especially those with lower levels of education and wealth, are failing to adapt to changing environment. What makes the adaptation process slower is unjustified overconfidence in financial knowledge of people. If individuals are overconfident, they will less likely seek information independently. People should be exposed to financial education as early as possible to have their awareness of the complexities of modern financial industry increased.

Evidence from OECD pilot study and Jump$tart Coalition survey suggest that financial illiteracy is a problem for both youth and adults both in Europe and the US. What needs to be improved depends on the country because of various cultural and environmental factors. In Estonia, for example, the focus should be on improving attitudes towards money and financial behaviour because these were the areas where many respondents failed to show good results. Results from the Jump$tart Coalition survey show that despite many efforts to improve the financial literacy of US high school students, little has changed since the first base line survey conducted in 1997. However, the survey results also hint that financial education should be taught in a more interactive way. If principles of the stock market game are applied to theoretical aspects of financial education, perhaps students will show better results.

Nevertheless, a need for financial education clearly exists. The form of such education of course depends on the overall goal of the course and the target audience. In the next section I look into the concept of financial education and present its different forms.

3 What is Financial Education?

3.1 Introduction

In this section I look at the primary way a person can improve his or her financial literacy levels – through financial education. Firstly, the concept of financial education is defined. The definition is broad and tries to capture the essentials of financial education. Secondly, the issue of effective use of information is highlighted. It becomes evident that in modern world effective use of information becomes a crucial skill as more and more information becomes available to the open public. Although where to look for information is still an important question to answer, what to look for becomes increasingly important in today's world oversaturated with information. Lastly, there are many ways a person can educate oneself about finances and this is not limited to special training only. A list of "modern" and traditional ways of educating oneself is provided in this section.

An OECD 2005 research book that describes the different types of financial education programmes currently available in OECD countries provides a detailed definition of financial education:

> Financial education is the process by which financial consumers/investors improve their understanding of financial products and concepts 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, 2005:26].

As a result, financial education can help people to identify what kind of information they should be looking for when facing a financial decision. Being financially literate helps making informed decisions but the reader should note that financial literacy is not the same as financial education. An interesting analogy is presented by Goel and Khanna that compares finance to language and financial literacy to "the ability to read, write and understand this language" (Goel & Khanna:338). And like with any other language, in order to become fluent, one must learn the basics first and then apply them in practice. Financial education is a way to teach such basics.

When the understanding of financial concepts is improved, people are able to use information they gather effectively. "What is lacking is not information …, but rather the ability to interpret the information (how well do alternative mortgages strategies fit my needs?)" (Lerman and Bell, 2006:31). The difficulties many people face are connected to the abundance of information and the need to find relevant information ("analysis paralysis"). Moreover, "aggressive marketing strategies might lead to consumers choosing an inappropriate financial product or service" (Goel and Khanna:339).

> Effectiveness of information given to a consumer – as a result of financial consumer protection regulation, depends not only on quality of the information, but also on capacity of the consumer to understand it [Goel and Khanna:339].

3.2 Different Forms of Financial Education

There are many different ways to become financially educated. The choice depends on various factors: personal goals, motivation, learning style preferences, level of knowledge, flexibility, infrastructure (i.e. access to the Internet, access to computer/library, etc.). The main focus of this paper is around financial education in schools. Lusardi and Mitchell (2009:10) suggest that "financial education should be provided before people engage in financial contracts". In further sections the advantages and disadvantages of financial education in schools are presented. Furthermore, the characteristics of a well-designed financial course suitable for pupils are gathered from various sources and presented. However, school education has its limitations and they are also addressed in the following chapter.

Below are presented some of the alternatives to school education. The goal is to make the reader familiar of the broad possibilities of improving financial literacy.

To begin with, the Internet, for example, provides a vast amount of resources, such as:

- Online University courses. For example, website Coursera provides a Personal & Family Financial Planning course taught by a lecturer from University of Florida Michael S. Gutter, Ph.D. The course consists of video lectures, reading materials and written assignments. Online university courses are suitable for people with busy schedules or those who prefer flexibility and studying independently.

- Discussion forums. One of the largest Internet communities Reddit has a sub-reddit dedicated to personal finances which has more than 1.4 million subscribers. The sub-reddit provides links with information that is useful both for beginners and experienced people. The sub-reddit covers a wide variety of personal finance related topics: saving for retirement, financial planning, budgeting, pensions, credit, debt and many more.

- Video seminars/lectures. One of the largest video-sharing platforms YouTube provides a huge amount of video material on personal finance.

- E-Books and other publications. Search engines like Google (Google Scholar for academic publications), Bing, Yahoo, etc. can help a user to find books and publications on a variety of topics.

- Thematic websites. Many governments recognize that people's financial literacy levels require improvement and they assist people with creating websites related to personal finance and money management. In Estonia, for example, the website Minu Raha (translated from Estonian: My Money) created by Estonian Financial Supervision Authority is an excellent resource about personal finance management. There are two versions of the website: one aimed at adults and the other aimed at younger population. Both versions of the website present theoretical material with hypothetical examples that make it easy to comprehend.

In addition to this, there are more traditional ways of educating oneself:

- School education. Providing financial education in schools is a way to prevent people from making financial mistakes early in life. As said by a famous Dutch Renaissance philosopher Desiderius Erasmus: "prevention is better than cure". Even though evidence suggests that exposure to financial education early in life helps people to avoid making financial mistakes in the future and positively impacts financial well-being, not all schools have included financial education in their curriculums. The reasons for this are presented in the section about limitations of school system for providing financial education.

- Employer based programs. The majority of large employers offer some form of financial training to their employees. The medium through which these materials are delivered varies from company to company. In some cases employers offer financial education seminars. Others limit themselves to providing printed materials.

The effect of employer based programs on employees' financial behaviour is found to be positive. For instance, a paper by Martin (2007) that reviews literature on financial education mentions a study conducted by Bayer, Bernheim and Scholz (1996) whose regression analysis concluded that "frequent seminars (based on survey responses) increase both participation rates and contribution rates for non-highly compensated individuals (defined in various ways, one of which is annual income under $100,000)." (Martin, 2007:11).

- Books are a good source of valuable information. This method combined with the use of the Internet to search for relevant authors can enhance the learning experience.

- Personal experience (trial and error). Evidently, personal experience is one of the best teachers in life. However, in the case of personal finance, this method of learning is least preferable due to the consequences of bad financial decisions (long-term debt, low standard of living, low financial well-being that affects all members of the household, to name a few).

3.3 Criticism of Financial Education and Financial Education Studies

In this section I review criticism of financial education and financial education studies. Among these are the high costs of educational efforts with no clear benefits, difficulty to retain learned material, and habitual financial behaviour of low-income population that limits educational efforts. Apart from this, many financial literacy studies show mixed results of effectiveness of financial education when a more comprehensive meta-analysis of such studies is done.

One of the challenges of financial education – and education in general – is how to achieve retention of information after completing the education. Since education effects decay over time, even long hours of schooling, which improve understanding in the short term, tend to be ineffective for improving downstream financial behaviour. One might argue that financial education should be spread out over longer periods of time throughout school, but it is not clear how much cumulative education would be required before we see significant positive results and at what cost (Fernandes et al., 2014:28).

Another argument against one of the approaches to financial education is that theoretical knowledge has a weak relation to financial behaviour. Instead, education should be focused more on developing "soft skills" that improve financial planning, increase confidence in financial decisions and improve analysing skills to help better weight pros and cons of a decision[8] (Fernandes et al., 2014:30).

A study done by Cole and Shastry (2008:30) concluded that it is not so much financial education that affects peoples' investment income as education and cognitive abilities in general. The researchers found out that on average there is a significant difference in investment income between those who finished high school and those who did not. However, the difference between high school graduates that took part in state mandated financial education and those who graduated prior to such mandate is minor. Cognitive ability plays an important role in the amount of financial instruments that people hold as well as savings behaviour. It is important to note that when cognitive abilities were divided between innate and acquired, then innate abilities had significantly more impact.

Moreover, in their meta-analysis Fernandes et al. (2014:32) found out that financial education had little positive effect on the financial behaviour of a low-income sample. They explain these findings by the fact that such behaviour is caused by bad financial habits that low-income people established over time (Lynch and Wood, 2006 cited in Fernandes et al. 2014:33). Unfortunately, education alone cannot change such habits. However, there is very mixed evidence in this regard because Lusardi's (2004:1)

[8] More information about financial education goals can be seen on page 29 in Section 4.2 – Limitations of providing Financial Education in Schools

findings, for example, show that "[b]y offering financial education, both financial and total net worth increase sharply, particularly for families at the bottom of the wealth distribution and those with low education."

This brings me to my next point that results of the effectiveness of financial education studies vary significantly. In the meta-analysis mentioned above it was discovered that research results varied depending on the research design. Many studies were flawed due to factors like: (1) omission of variables from the research that could significantly impact results, (2) absence of a common framework to conduct financial literacy research, (3) a mismatch between operational definitions in studies and conceptual definitions. In the meta-analysis Fernandes et al. suggest future researchers to "describe in their method sections key characteristics of the instruction (e.g. contact hours, delay in measurement, curriculum details), the instructors (e.g. instructor training and financial literacy, competing sources of financial advice) and the instructed (e.g. age relative to age encountering behaviours to be influenced, income, role in family financial decision making)." (Fernandes et al. 2014:29).

To sum up, one of the main challenges that financial education programs face is ensuring that the knowledge stays with people up to the point when first financial decisions are to be made. Should the education be intensive and short or spread out over longer periods of time? How big is the role of intellect in financial well-being? If we ought to implement financial education, then what should be the main focus on: theory or development of "soft skills"? It is difficult to answer these and many other questions because at this point we know that costs of financial education are high but benefits are not clear.

One of the reasons that results of financial education are ambiguous is that study results that try to measure supposed benefits vary significantly depending on the research design. In many cases a lot of important variables are missing from studies which have the potential to alter the results. The meta-analysis of financial literacy studies conducted by Fernandes et al. (2014) clearly shows this.

4 The Benefits of Providing Financial Education in High School

Bad financial decisions can have severe consequences and it is important to prevent people from making them. People should be equipped with the right knowledge and tools as early as possible to prevent this from happening. In this section I gathered evidence that financial education provided in high schools can yield positive behavioural changes in students. It is concluded that although participation in financial education courses in high schools does not guarantee increased levels of financial literacy, these courses foster positive attitudes towards money. These positive effects remain strong in the long-run which is manifested by the fact that high school graduates are more likely to deepen their knowledge by taking additional personal finance courses. Furthermore, the reasons why schools are an excellent facility to provide widespread financial education are present.

A study that evaluated the effectiveness of NEFE[9] High School Financial Planning Program conducted by Boyce and Danes (1998:1) shows changes in both saving and spending habits of high school students after participating in the curriculum. For example, "29% of the teens started saving and 15% began saving more". The researchers did a follow up in a form of a questionnaire for the participants after 3 months and compared their knowledge levels with the ones before financial education was started. They found out that the positive changes remained: "37% had improved skills for tracking spending, 47% know more about the cost of credit, 38% have improved their knowledge about investments and 38% feel more confident about managing their money" (Boyce and Danes, 1998:1).

However, some evidence points out that financial education does not guarantee increased levels of financial literacy, but at the same time, such education can positively impact people's attitudes towards money. Lerman and Bell (2006:34) quote a study conducted by Louis Mandell whose analysis "showed that a full course in personal finance did not affect financial literacy, but discernibly raised self-reported levels of thrift as well as actual indicators of thrift, including having a savings account."

[9] NEFE – "The National Endowment for Financial Education is the leading private non-profit … national foundation dedicated to inspiring empowered financial decision making for individuals and families through every stage of life.", http://www.nefe.org/

Although financial literacy levels did not increase directly because of financial education courses, increased levels of thrift could positively impact money management and financial decision making. The Oxford Dictionary defines thrift as "[t]he quality of using money and other resources carefully and not wastefully". Careful use of money presumes investigating for alternatives before making a purchase (this term is often called 'shopping around'). The importance of shopping around is often highlighted by different financial information websites. For example, Estonian financial information website Minuraha.ee suggests people to look for at least 3 alternatives to a financial product before making a decision. The availability of at least 3 options to choose from makes price comparison easier.

There might be other reasons that explain why financial literacy of high school students is not improving. One of the reasons is the evaluation questions themselves. These are often ambiguous and their interpretation could vary. Below fragment about taxation related question clearly illustrates the issue:

> For example, consider the question "If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?" The testmakers apparently view as incorrect the answer that "Earnings from savings account interest may not be taxed." In fact, interest earnings for those below the tax threshold (which may be the case for many students) will go untaxed while earnings from work are taxed from the first dollar. [Lerman & Bell, 2006:39].

Financial education in high schools has a positive long term effect. Bernheim et al. studied the long-term effects of state mandated financial education requirements in high schools. They conclude that "mandates significantly increase exposure to financial education, and ultimately elevate the rates at which individuals save and accumulate wealth during their adult lives." (2001:462).

School provides an environment which makes delivering financial education to a wider audience convenient. Not only is it because of the physical infrastructure of classes and equipment, but because "[h]igh school curriculums provide a ready-made infrastructure for reaching a wide audience with relative ease" (Lerman and Bell, 2006:33).

Another beneficial aspect of providing financial education in high schools is the audience itself. A group of high school students is less likely to have different financial experiences (if any) and there are less cultural differences overall which makes educating them easier because courses do not have to be tailored to a specific minority. In addition to this, "…high school students are a captive, nearly universal audience for the education effort." (Lerman and Bell, 2006:36). Lastly, some researchers believe that during high school it is the last time that students could be compelled to learn anything. For instance, Mandell explains that "[v]ery few college students elect to take a course that will improve financial literacy and after college, people cannot be compelled to sit down and concentrate long enough to learn what they must know to look out for themselves." (2006:58).

4.1 Characteristics of Well-Designed Financial Education Courses for Schools

When designing a financial education course, certain guidelines should be followed. In this section I have gathered best practices and recommendations for creating a financial education course designed for high school students. Some principles are more general and can be applied not only in high school environment; some are more specific which are best suitable for high school students. I begin by listing general elements of a successful financial education program. These principles are then followed by a list of best practices of high school financial education courses compiled by the Jump$tart Coalition.

4.1.1 Principles of Effective Financial Education Program

In his work Orton (2007:20) focuses on gathering best initiatives that are aimed to improve financial literacy. One of the sections of his paper discusses financial education courses. Below 8 principles of successful financial education program were originally designed by the US Treasury Department's Office of Financial Education:

1. **Focus on Basic Tenets** – Programs should be focused on one of the following basic tenets of financial literacy: savings, credit management, home ownership, and retirement planning. It is possible to teach about all these blocks, but depending on the audience, some blocks should be of bigger importance than

the other. In case of high school students, it is logical to focus on tenets, such as savings and credit management. Home ownership and retirement planning should also be covered for educational purposes and to illustrate the interconnection of blocks.

2. **Tailored to Target Audience** – As mentioned in the above point, the content of the education program should take into account demographic factors of the audience, as well as language, culture and overall experience in financial issues.

3. **Local Distribution** – Delivering the program with the help of local communities and contacts ensures that a wider audience is reached.

4. **Participant Follow Up** – After completing the program participants should be tested again to ensure that they are able to apply the skills learned during the education. The follow up can be in a form of interviews or tests, for example.

5. **Specific Program Goals** – Goal setting makes it easier to track and measure progress. Furthermore, educational goals determine the content of the program.[10]

6. **Demonstrable Impact** – Different evaluation methods can be used to demonstrate positive effects of the program. Program can be considered successful if participants' compared to non-participants changed their attitudes and behaviours for the better; participants demonstrate the ability to solve problems by applying the knowledge gained during the course.

7. **Replicability** – Programs can be easily replicated on a local, regional, or national basis.

8. **Built to Last** – Programs have continuing financial support, legislative backing, or integration into an established course of instruction.

[10] Financial education programs can differ substantially depending on the goal of the program. For further information on the importance of proper identification of financial education program goals see section 4.2

4.1.2 Jump$tart Coalition Best Practices for Personal Finance Education Materials

The 8 principles mentioned in the previous section can be applied for both adult and youth education. However, to be able to successfully design a financial course for high school students, more specific points should be taken into consideration. These points are outlined by the Jump$tart Coalition for Personal Financial Literacy in their Best Practices for Personal Finance Education Materials document (2008):

- **Objectivity** – The materials used in the course should be objective and should provide different viewpoints where applicable. The goal is to avoid prejudice, promote discussion and encourage participants to express their personal viewpoints on the subject. Materials should not be used for promotional purposes. The creators of content should be clearly identified and contact information provided. Additional sources of information should also be objective.

- **Aligned to Standards** – Materials correlate to state or national standards in one or more of the discipline standards: (1) Business, (2) Economics, (3) Family and Consumer Sciences, (4) Mathematics, (5) Social Studies.

- **Teaching and Learning** – Teaching and learning materials' language should be easy to comprehend by the students. Materials do not require teachers to have expert knowledge of the subject. "Materials include student learning objectives and assessment tools, background information, lesson plans, and activities that stimulate student participation." Variety of teaching methods is very important. For example, visual, auditory, touch and group interaction. "Copyright restrictions and terms of use are clearly stated."

- **Target Group** – Learning materials should be tailored to fit the target group and target groups' learning environment. For example, reading materials for high school students should be different from those intended for teachers or parents in terms of complexity. Materials should take into account cultural diversity, demographic factors and income level of the target group. Supporting materials (e.g. illustrations) should be culturally sensitive and adapted to the target group.

- **Accurate and Up-to-Date** – Learning materials should reflect latest developments in the discipline. Regular revision of the materials is important to keep them up to date. Materials' publication dates should be clearly stated.

- **Available and Accessible** – Materials are available for teachers and learners to use. In case of paid-for resources, the price should be clearly stated. Materials that require the use of computer and/or the Internet should be accessible with the existing IT resources (i.e. the software should not be resource-intensive).

- **Assessment** – Materials should be tested before publication under conditions that closely replicate the learning environment. Feedback sessions for students and teachers should be incorporated in the program to develop it further. Materials should include pre- and post-learning assessment tools which measure changes in knowledge and behaviour.

When it comes to learning materials, it is not difficult to follow the above mentioned standards and principles. The courses should cover only the essentials of finance because "[a] focused approach on a limited number of highly relevant topics may prove more effective." (Lerman and Bell, 2006:37).

However, what presents a challenge is the necessity to tailor these materials to specific target groups. A well-designed financial education course for high school students should take into account their various socio-economic, demographic and cultural factors. Given the heterogeneity of students in today's classrooms, tailoring the learning materials could be rather difficult (there are often representatives of cultural minorities in the classroom; students' come from families with different educational and income levels, etc.). Perhaps one solution could be having frequent feedback sessions for both students and teachers that could help to identify gaps in learning materials and/or teaching process. Heterogeneity of students is one of the many other obstacles to developing an effective financial education course for high school students which I cover briefly in the next section.

4.2 Limitations of Providing Financial Education in Schools

Despite the fact that schools provide a convenient platform for delivering widespread financial education, there are some limitations that exist in this system. There are two major obstacles that make introducing financial education in schools difficult. First obstacle is a lack of qualified teachers that are confident enough to be able to teach personal finance. Second obstacle has to do more with lower effectiveness of financial education in schools, due to difficulty of tailoring the courses to a specific audience.

Lack of qualified teachers slows down the implementation process of financial education in schools. Even though teachers recognize the importance of the subject of personal finance, few of them possess the knowledge and competency to teach the subject, especially in more technical topics such as risk management and insurance, saving and investing, and financial responsibility and decision-making (Way & Holden, 2009:76). In their study Way & Holden identified that previous exposure to personal finance education (whether in university or through attending special trainings) is a "significant predictor of teachers' perceived competence to teach personal finance topics." (2009:76). In order to boost teachers' confidence in teaching personal finance special training courses should be assigned prior the implementation of this subject in schools. It goes without saying that learning and understanding theoretical material takes time for teachers. Even if we try to widen the responsibilities of teachers of adjacent discipline like mathematics, developing a learning program that achieves a specific goal is time consuming. A solution could be to hire a third party professional but for additional costs to schools.

Briefly about financial education goals. Lerman and Bell (2006:35-36) identify two major goals of financial education: (1) focus on educational outcomes and (2) focus on financial decision making. Ideally, the educational program should achieve both, but in practice combining them is difficult due to inherently different approaches needed to achieve them.

If the focus is on educational outcomes, then students are taught a set of ambiguous topics with a standardized test as means of evaluation. The positive aspect of such approach is that students get to be exposed to a wide array of topics. However, lessons with too much theoretical material tend to be tedious and instead of focusing on learning the material students often prepare exclusively for the test.

If the goal is to become better at financial decision making, then "[t]he emphasis would be on issues of clear relevance to the students or of relevance in the immediate future.[11] The teaching approach would involve a great deal of hands-on learning and would raise financial topics as partly a means to personal goals." (Lerman and Bell, 2006:36).

The extent to which educators are able to reach either goal strongly depends on the audience. In the end of section 3 I touched upon the subject of high schools' audience. It was concluded that due to little prior financial experience, students' level of financial literacy is more or less equal (this is important when deciding the difficulty of the course). Also, minor cultural differences reduce the importance of tailoring learning material to a specific minority. Another positive aspect was the reachability of the target group.[12] Moreover, high school students are generally considered as a captive audience.

The problem, however, lies within the differences in the above approaches and their effectiveness in increasing students' knowledge. On the one hand, focusing on educational outcomes makes it possible to educate a wider audience. However, the effectiveness of increasing financial literacy is lower because youth tends to respond better to interactive learning experiences which this approach clearly lacks. "The authors [of the Jump$tart survey] find that financial education efforts are more likely to improve knowledge if the mandate requires the teaching of personal finance concepts within a specific course. By contrast, "generic" educational standards and testing mandates were found to be insignificantly related to personal finance

[11] Issues of relevance to high school students could be, for example, a cost of car ownership, independent living abroad while studying, personal banking and many more.

[12] In Estonia, for example, the typical high school classroom consists on average of 25-30 students

knowledge." (Martin, 2007:15). Teaching within a specific course is exactly what a focus on the financial decision making approach does. However, it is difficult to reach this goal when a large group of students is taking part due to time constraints. Since the approach requires a great deal of hands-on and practical learning, the teacher will not be able to devote attention to every student if the study group is too big. Thus we get a situation where the most suitable approach for high school environment is least effective and vice versa.

Once again we witness a situation where the best solution is to identify the golden mean of both teaching approaches. In this case a mix of basic theoretical concepts, relevant case studies, and a portion of practical learning, all delivered in an interactive fashion, could be the most effective way.

5 The Interview

5.1 Introduction

In order to have a better picture of the educational efforts for financial literacy in Estonia I contacted a specialist of the Department of Education of Estonia and we agreed to have an e-mail interview. The purpose of the interview was to gather facts about financial education in schools of Estonia. For this reason e-mail interview is sufficient because the research does not need information about my observations of the interviewee (i.e. I am interested in what is said, not how it is said).

The initial idea was to send questionnaires to as much schools in Tallinn as possible. However, I concluded that even better information could be received from the Department of Education. Time factor is also important – a single interview would take less time than surveying many schools. Furthermore, a specialist from the Department of Education provides a view of the situation on a higher level than individual answers to a survey. The survey questions were slightly modified into open ended questions. The interview questions/answers are located in the Appendix 1.

5.2 Method

To begin with, the first contact was initiated through a feedback form for the Department of Education at the official Tallinn city webpage.[13] My request was picked up by one of the specialists of the department and she agreed to answer my questions. Further communication was conducted via e-mail for two reasons: (1) the website does not support the transfer of document files through the feedback form; (2) e-mail communication provides the ability to reach a specific person from the department.

The interview questions are written in English language in MS Word document and designed to be open ended. The interviewee answered questions in Estonian. The translation of the answers can be seen in the Appendix 1. The total number of questions is 15 and they touch upon four areas of the thesis: (1) introductory question about interviewee's opinion about citizens' financial literacy levels and personal

[13] http://www.tallinn.ee/haridus/tagasiside?id=7

questions about where to look for financial support; (2) questions about schools that teach personal finance classes; (3) questions about personal finance course design; (4) question about OECD survey results. The summary and analysis of the answers is presented further in the Interview Results Analysis section.

5.3 Interview Results Analysis

The interview begins with a request to provide personal opinion about the levels of financial literacy of Estonians. Although the question was very general, the interviewee managed to give an answer that reflects the importance of considering various socio-economic factors and their influence on peoples' financial literacy levels. Furthermore, the interviewee could not provide any specific numbers. However, it was pointed out that there is certainly a wide gap in financial literacy between Estonians – there are people who possess good financial knowledge and there are those who have no knowledge at all. The purpose of questions 2 and 3 is to determine if the interviewee knows where to look for support in financial decision making. Unfortunately, it is impossible to know how credible the answers to question 2 and 3 are, but I assume that the interviewee is knowledgeable enough in terms of where to look for financial support.

The goal of questions 4-9 was to identify past, current and future efforts of improving financial literacy of Estonians through education system. From the answers we can see that in fact quite much effort is put into improving financial literacy of children in schools. For example, the Junior Achievement Estonia program, which was officially registered in 1994, provides learning material on various topics including those aimed to improve financial literacy. In 2010/2011 Junior Achievement Estonia programs and learning materials were used in total in 661 classes and reached 12411 schoolchildren. The downside is that these materials are not free of charge. Paid learning materials could be one of the reasons why financial education is not widespread in Estonia.

Furthermore, financial literacy is not the single focus area in schools. In addition to financial literacy, the focus is on economics and business related subjects. For instance, in one particular school there is a "business education class" that was first implemented in the 90s. Such courses exist in other schools too in a form of electives.

It comes as no surprise that a gap in financial knowledge exists in Estonia. Not only because quality learning materials cost money, but also because such courses are not compulsory in schools (not to mention that some school do not have such courses in their curriculum).

Luckily the situation can change for the better if the demand for financial education increases. In question 6, for example, when asked what the main reason for implementing personal finance courses in schools was, the interviewee replied that a lot of students were interested in such courses. In lower grades at schools the demand came from parents. When asked about future directions of financial education then the interviewee replied that the focus will shift from business in general to entrepreneurship specifically. Most likely the demand can be explained by "trendiness" of self-employment among the youth in today's world. No information about personal finance education in particular was given.

The purpose of question 9 was to see if the interviewee had any particular preferences of time when financial education should be taught. The possible answers were as follows: (a) kindergarten; (b) during 1-4 grades in school; (c) during 5-9 grades in school; (d) during gymnasium (10-12 grades) or technical school; (e) in the university; (f) combination of many. In interviewee's opinion financial education can be taught in all of the abovementioned periods of life. And of course the difficulty and scope of the course should match the age group. For example, in kindergarten financial education can be in a form of games (e.g. "shop").

Questions 10-12 cover more specific aspects of financial education courses like implementation, teachers' competence and the ratio between theory and practice. When asked about the most effective way of implementing personal finance management courses in schools – in a form of separate course or integration with existing subjects – the interviewee believes that a lot depends on the course content and the teacher's competence. Nevertheless, the interviewee answered positively about the idea of merging a personal finance management course with adjacent disciplines. As far as teachers are concerned, the interviewee believes that in gymnasium (10-12 grades) personal finance management should be taught by specialists in this field. I assume that the reasoning behind this is that subjects in gymnasium are more difficult and specialist competence is required to teach them. It is important to note that if personal finance management ought to be taught by specialists then most likely it will be a separate course. However, it is definitely possible to merge this course with other disciplines before gymnasium. As for the ratio between theory and practice, the interviewee emphasized the importance of practical application. As mentioned earlier, there are two goals that can be achieved with financial education: (1) focus on educational outcomes (requires more theoretical approach) and (2) focus on financial decision making (emphasizes practice over theory). This means that for the interviewee it is important to teach schoolchildren more about financial decision making than just teaching them about some number of theoretical concepts.

Finally, questions 13-15 touch upon the results of OECD pilot study and interviewee's opinion about the overall impact of financial education in schools so far. Unfortunately, the interviewee is not familiar with the study results. Regarding the effectiveness of financial education, the interviewee made it clear that financial education alone is insufficient to improve overall levels of financial literacy. There are other important variables that affect peoples' financial literacy. Some the government has control over and some it does not. Among the uncontrollable ones are various social factors: influence of family and friends, for example. However, what the government can do is increase public awareness of the importance of being financially literate in order to make better quality financial decisions that positively impact financial well-being.

6 Conclusion

The constantly evolving market of financial products and services, as well as changes in demographics and retirement policies, increasingly place a responsibility for one's financial well-being on the individual. These environmental changes coupled with evidence about inadequacy of peoples' financial literacy levels call for an intervention in the form of financial education.

Financial education can be in different forms: seminars, trainings, books, courses, etc., and it is aimed at improving peoples' understanding of this modern complex financial environment. Nowadays with the help of technological development it is also accessible at any stage of life. In order to provide widespread financial education, it must be taught in schools. Teaching financial literacy at schools will be of a preventive nature, meaning that it will equip students with important knowledge, tools and skills that will help them avoid common pitfalls, such as debt or insufficient retirement savings. Ideally, financial education would also focus on cultivating a successful mind-set (e.g. to live below one's means, following a budget). The initial focus of this research was around financial education in high school. However, after researching more and doing an interview with a specialist from the Department of Education of Estonia it became clear, that financial education should be taught from an even earlier age.

During the research some obstacles regarding financial education in schools and financial literacy research in general were identified. Firstly, as evidence from meta-analysis of financial education studies suggests, the benefits of cumulative financial education are unclear, while at the same time the costs are undoubtedly very high. Secondly, financial literacy research conducted thus far provides controversial conclusions regarding the effectiveness of financial education. A lot has to do with the way research was designed. One of the criticisms is that many details that could have significant impact on results of different studies are not mentioned. For instance, in different studies that analysed the effectiveness of financial education, researchers did not mention elements like characteristics of the instruction, the instructors, and the instructed (Fernandes et al., 2014:29).

Education alone is not enough to improve the situation, because financial literacy comprises not only of good theoretical knowledge, but also is manifested in useful habits, positive attitudes and behaviour. Proactive approach from the government is crucial if we want to affect peoples' attitudes and behaviour. Government plays an important role in promoting financial literacy and increasing public awareness through various campaigns and media channels.

Moreover, it is vital that results of international studies on financial literacy, such as the OECD study, are clearly communicated to various organisations within a target country. The organisations should be directly or indirectly connected to the educational system.

In Estonia there is a wide gap between people who are financially literate and those who are financially illiterate. Furthermore, in financial decision making many Estonians tend to focus on short-term results and not on long-term planning. This might be a reflection of uncertainty about the future caused by an unstable economic environment and the media. As mentioned, governments can partly aid in altering such perceptions. In Estonia some initiative is taken to improve financial literacy through school education. However, such education is not widespread nor it is compulsory. But if the demand for such education stays strong we will see movement in the right direction.

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Appendices

Appendix 1. Interview Questions/Answers

Below are interview **questions** with *answers* in Estonian and *translation* in English. Furthermore, some answers required clarification from my side which is done as a *side note*. In question 15 I needed to provide a ***context*** before asking the question. Grammar and punctuation of the answers in Estonian were left unchanged.

1. **Do you think people in Estonia possess adequate financial knowledge? For example, do they know how to plan a budget?**

   Oleneb tegevusalast, töökogemusest ja haridusest, ei oska kui suur %, aga kindlasti on teadmised seinast-seina

   Depends on [peoples'] occupation, work experience and education. It is difficult to say percentage-wise, but people are certainly unequally knowledgeable. (Side note: the phrase "seinast-seina" is literally translated "from wall to wall" which remotely resembles "here and there". However, in context of knowledge it means that there are very knowledgeable people and there are people with no knowledge at all. Hence the clarification about occupation, work experience and education.)

2. **Do you personally know where to look for financial advice?**

   Yes

3. **Have you heard about the website minuraha.ee? (Yes/No)**

   Yes

4. **Is personal finance management class taught in schools of Tallinn? The purpose of the class would be to teach children how to use their money in a beneficial way. For example, teaching them about saving, financial planning, etc.**

   Jah on olemas Junior Achievement program näiteks juba palju aastaid
   http://www.ja.ee/
   Majandusõpet on juba ka algklassides näit Pirita Majandusgümnaasiumis jpt
   Gümnaasiumi klassides erinevad valikained jne

Yes, for example, the Junior Achievement program exists for many years. Economics lessons exist in elementary classes, for example, in Pirita Economics Gymnasium and in many other gymnasium classes in a form of electives, etc.

5. **If yes, when did the first personal finance management classes start?**

Kahjuks ei ole sellist infot aga kindlasti olid sellised klassid juba 90-tel. Näiteks sel ajal oli Äriklass Tallinna 32. Keskkoolis

Unfortunately there is no such information, but certainly such classes existed already in the 90s. For example, at that time Business Lessons existed in Tallinn's Middle School no. 32. (Side note: The interviewee talks about business education, even though the question was particularly about personal finance management education. It is important to make a distinction because one of the goals of personal finance management is effective use of money. In business studies, however, finances are one of many other important aspects like market research, marketing, sales, product development, etc.)

6. **What was the main reason for introducing personal finance management courses in schools?**

Gümnaasiumi osa populaarsuse suurendamine (see oli noortele oluline teema) Algklassides ka koostöös vanematega.

In gymnasium the main reason was increased popularity for such education (the topic was important for the youth). In elementary school the initiative came from parents.

7. **If personal finance management classes are not taught in schools, what is the reason for that?**

No answer

8. **Will there be any changes in the future? For example, will these classes be introduced in 1 year, 3 years or 5 years from today?**

Räägitakse üha rohkem mitte ettevõtlusest vaid laiemalt ettevõtlikkusest

A lot of discussion is not about general business studies, but entrepreneurship in particular.

9. **When do you think is the appropriate time to start teaching personal finance to people? Please also explain why the answer you chose is the most appropriate.**

Example answers:

a. Kindergarten (*mängudes võiks juba olla – poodi jm mängitakse ju*) – *it could already be in a form of games – after all, [kids] play shop and many other games.*
b. During 1-4 grades in school – *OK*
c. During 5-9 grades in school – *OK*
d. During gymnasium (10-12 grades) or technical school (tehnikum)
e. In the university
f. Combination of many? (e.g. start in 1st grade in school and continue throughout all years of education). *Tegelikult eakohaselt igal pool ja oleneb teemadest ning sellest kui laialt teemat käsitleda. Actually teaching is possible in all cases, but the education must be tailored to a specific age group.*

10. In your opinion, if a school decides to implement personal finance management course, what would be the most effective way to do it: integrate the course with adjacent (täiendav) discipline like mathematics or create a separate course?

Oleneb õpetajast, ainesisust jms kõige parem oleks minu arvates ainetevaheline integratsioon

Depends on the subject, contents of the course, etc. The best solution, in my opinion, would be integration between subjects.

11. How do you think, who should teach personal finance management classes in schools: teachers of adjacent disciplines after necessary training or personal finance management specialists? Or perhaps you have another answer? Please share.

Gümnaasiumi osas kindlasti spetsialist, aga samas oleneb ainekavast ja teemade põhjalikkusest.

In gymnasium certainly a specialist, but at the same time it depends on the syllabus and thoroughness of subjects.

12. When teaching personal finance management at schools, what should be emphasized more: theory, practical application or both?

Kindlasti praktilise osakaal suurem

Certainly practical application should be emphasized more.

13. Are you familiar with the results of the OECD survey conducted in Estonia which goal was to measure levels of financial literacy of citizens? (Yes/No)

No

14. How do you think, would the levels of financial literacy of Estonians increase if this discipline was taught in schools?

Ilmselt

Obvoiusly

***15. Based on the OECD survey results, Estonian respondents possess adequate theoretical knowledge about finances. However, very few are doing financial planning for the future (short- or long term). Also, many respondents have no household budget. Furthermore, about 22% of respondents have borrowed money to make ends meet (pay bills, etc.).* How do you think, would teaching personal finance management in schools change this situation for the better?**

Kindlasti, kui suurel määral on iseküsimus, oluline on ka perekonna ja sõprade mõju, samuti avalik teave – internet jms.

Certainly would, however, it is questionable to what extent. It is also important to consider the influence of family, friends and public information – the Internet, etc.