



FINANCIAL LITERACY AMONG HIGH SCHOOL TEENAGERS IN A DEVELOPING COUNTRY CONTEXT - AN EMPIRICAL STUDY WITH REFERENCE TO HIGH SCHOOL STUDENTS IN ADDIS ABABA, ETHIOPIA

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ABSTRACT

Both developed and developing countries and economies have become increasingly concerned about the level of financial literacy of their citizens. Previous studies indicate that unlike the case in the industrialized world, the issue of financial literacy is a contemporary issue in the developing world, and it is an understudied field in this context. This study was initiated to survey the level of basic financial literacy among high school students in Addis Ababa, Ethiopia's capital. Such a study corresponds to global initiatives such as by OECD requesting scholars to show case the level of financial literacy among young people in different countries/contexts. The data collection instrument was a standard questionnaire that measures the level of basic financial literacy of high school teenagers in Ethiopia. The questionnaire is based on the instrument originally developed by Lusardi and Mitchell, (2005); and this study uses the slightly updated version used by Van Rooij, Lusardi and Alessie, (2011) that measures basic financial literacy from angles of numeracy, interest compounding, inflation, time value of money, and money illusion. The study concludes that the level of financial literacy is not fairly good among the high school students. The high school students in the capital are not well versed with the basic financial literacy dimensions/measurements, mainly with the assessments of interest compounding, inflation, time value of money, and money illusion. The worst assessment results are a 90.8% failure in the money illusion question, a 70.9% failure in interest compounding assessment question, and a 62.7% failure in the time value of money assessment question.



These are followed by a 58.4% failure in the inflation assessment question and a 31.3% failure in the easiest assessment question of numeracy. By and large, these findings testify that the high school students in Addis Ababa have serious deficiency in basic financial literacy. Policy makers and educators may need to seriously pay attention to this shocking deficiency in the level of basic financial literacy among the high school students and take measures to educate the youth this basic life skill at young age while they are still at school.

Keywords: financial literacy; high school students; Addis Ababa; Ethiopia

JEL Classification Code: D14

1. INTRODUCTION

Financial literacy, which is also referred to as financial capability, or financial knowledge, or financial education (Feg, 2012; Huston, 2010) has achieved increasing attention worldwide because financially literate individuals are more likely to make rational decisions as consumers, investors, and savers, which in turn can facilitate sustainable economic growth (Elifneh, 2018; Jang, Hahn & Park, 2014). The field has risen on the agenda for educators, community, business and consumer groups, and government agencies and policymakers (Worthington, 2006).

According to Hastings, Madrian and Skimmyhorn (2012), financial literacy refers to knowledge of financial products (e.g., what is a stock vs. a bond), knowledge of financial concepts (inflation, compounding, diversification), having the mathematical skills or numeracy necessary for effective financial decision making, and being engaged in certain activities such as financial planning.

In other words, it is noted that both developed and developing countries and economies have become increasingly concerned about the level of financial literacy of their citizens (FEG, 2012). An important consideration, nonetheless, is that in low-income countries, for example, financial outreach is much more limited, and more sophisticated consumer products are typically accessible only to a small percentage of the population. The role of financial literacy in increasing access to and take-up of financial services therefore receives more focus in this part of the world (Xu & Zia, 2012).

More so, although financial literacy has become an increasingly important ability in today's complex world, young people are among the least financially literate demographic group (Arceo-Gomez & Villagómez, 2017). A survey that measures financial literacy among



citizens of (low income and other) countries is an intriguing issue in the field of financial literacy (Agarwal et al., 2015; Arceo-Gomez & Villagómez, 2017; Boisclair, Lusardi & Michaud, 2017; Jang, Hahn & Park, 2014; Mouna & Anis, 2017; Mandell, 2008; OECD INFE, 2011; Van Rooij, Lusardi & Alessie, 2011). Accordingly, this paper seeks to demonstrate a survey result of financial literacy among high school students in Addis Ababa, and this will become a pioneer work to gauge (measure) financial literacy among teenagers in Ethiopia.

1.1. Problem Statement

It is noted that as recently as the 1990s financial literacy in the global context was discouraging; for instance, even higher education, which is expected to be associated strongly with increased financial literacy (Lusardi & Mitchell, 2007, cited in Willis, 2008), this did not happen to be as expected. The OECD advocates the importance of the study and promotion of financial literacy among youth (especially high school students).

It mentioned that financial literacy is increasingly considered to be an essential life skill, and that financial education should start at school. People should be educated about financial matters as early as possible in their lives (FEG, 2012). However, speaking of teenagers (e.g., high school students), although there is a positive correlation between financial education and education in general, even among highly educated individuals, there exists low levels of financial knowledge.

Particularly in recent years, policymakers have identified a need to financially educate young people starting in high school (Arceo-Gomez; Villagómez, 2017). In view of this, this study focuses on examining financial literacy among high school students in Addis Ababa (The capital of Ethiopia). As not much is known about level of financial literacy in the developing world, this study will contribute to close this gap.

Besides, like the main goal of similar studies conducted in other countries, this study will better inform concerned stakeholders, such as financial educators and policy makers as standards, course curricula, and education mandates are developed (Peng et al., 2007).

Like the main goal of similar studies conducted in other countries, this study will better inform concerned stakeholders, such as financial educators and policy makers as standards, course curricula, and education mandates are developed (Peng et al., 2007). So, understanding the level of financial literacy among high school students is critically important to financial educators, advisors, and education policy makers, as their informed decision on the curricula define teenagers' exposure to financial concepts, which is believed to have positive effects on money management skills of high school students (Peng et al., 2007). In Ethiopia, there is no



survey conducted to learn about the level of financial literacy among high school students. So, this study aspires to measure the level of financial literacy in Ethiopian teenagers/ high school students using a survey that replicates the popular Lusardi and Mitchell's (2005) financial literacy measurement approach. Generally, this study will have contribution to both theory and practice. Its theoretical contribution will be extending studies on financial literacy to less charted territories. Not much is known about financial literacy from this part of the world. The issue of financial literacy is a recent phenomenon in the developing world (Willis, 2009).

1.2. Research Issue

The central research question of the study is given as follows: Is the financial literacy level among Ethiopian high school teenagers fairly good? That is, based on the objective of the study, a survey will be conducted among high school teenagers in Ethiopia taking samples from high school students in the country's capital, Addis Ababa. As such this study will augment global efforts that prominent institutions (OECD) and scholars in the field are doing currently in surveying and exhibiting financial literacy among various segments of a society in many countries. Such a study aligns very well with the notion that policymakers have identified a need to financially educate young people starting in high school, which is considered as an essential life skill (FEG, 2012).

2. BRIEF REVIEW OF LITERATURE

2.1. Overview of Financial Literacy

Financial literacy is explained as as a mix of knowledge and skills that allow an individual to understand financial principles to make informed financial decisions, and as such it is considered as a body of knowledge or a field that provides the opportunity and the foundation for individuals to build wealth by actively participating in the economy and instances of such knowledge and skills include awareness that individuals have regarding interest rates on savings and even being aware of how interest is computed; and awareness whether inflation rates affect saving decisions (Elifneh, 2018; Naacp, 2003).

Similarly, according to OECD and INFE (2011, p. 3) financial literacy is described as “a combination of awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing”, More specifically, as noted by Elifneh, (2018), Arceo-Gomez and Villagómez, (2017), FEG (2012) and OECD and INFE (2012), the most important building blocks of financial literacy are financial knowledge (which relate to skills and knowledge of numeracy, inflation, and risk



diversification); financial behavior (such as level of savings, propensity to save and knowledge of one's own economic situation); and attitude towards financial decisions (e.g. the importance that a person places on savings and the future).

2.2. Financial Literacy measurement

The Lusardi and Mitchell (L&M) approach is the most commonly used financial literacy measurement scheme (Lusardi & Mitchell, 2005; Agarwal et al., 2015). This L&M approach comprises of five financial literacy questions that are designed to investigate/measure a person's knowledge and skills pertaining to basic financial knowledge with respect to numeracy (compound interest/interest compounding), inflation, and risk diversification. In other words, the L&M approach to measure basic financial literacy raises five questions.

The first one is a numeracy question, which focuses on assessing the participant's awareness whether their money that they put in bank (with a certain interest rate above zero) earns interest. The second question is interest compounding question, which assesses the participants' awareness whether interest income itself earns an interest.

The third research question is inflation question, and the focus is to examine whether participants are aware that money loses its value when inflation rate is higher than saving interest rate. The fourth question is time value of money question, that assesses whether participants are aware of the time value of money, i.e; money earned today is better than money earned tomorrow due to the fact interest income earned based on time.

The final question is money illusion question, which assesses whether participants are aware that when their income has doubled and prices of all goods have doubled as well in a certain year, they will be able to buy only less with their income.

3. RESEARCH METHODS

This study applied a survey design using a questionnaire that will measure level of basic financial literacy of high school teenagers in Ethiopia. The topic of the study is a contemporary one, hence applying exploratory and descriptive approach is appropriate (Patton, 2002; Yin, 2003). According to Kothari (2004), descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present and it is quite often used in social science and business research. In other words, the design of this research is a survey and approach is descriptive study.



The data collection instrument was a standard questionnaire that measures the level of basic financial literacy of high school teenagers in Ethiopia. The questionnaire is based on the instrument originally developed by Lusardi and Mitchell (2005), and this study uses the slightly updated version used by Van Rooij, Lusardi and Alessie, 2011 (see appendix 1 for the questionnaire) that measures basic financial literacy from angles of numeracy, interest compounding, inflation, time value of money, and money illusion.

The questionnaire is divided into two sections; the first section covers the demographic and socioeconomic variables; i.e., age, gender, education level (high school grades - 9th, 10th, 11th, and 12th). The second section contains/replicates the basic financial literacy measurement questions that relate to numeracy, interest compounding, inflation, time value of money, and money illusion.

With regards to sampling issues, in conducting surveys of financial literacy, OECD INFE (2011, p. 6) recommends a sample size of 1,000 participants per country. In this study, it was managed to gather 726 questionnaires from high school students (9th – 12th grades) only from Addis Ababa, Ethiopia's capital. These high schools are broadly categorized as governmental (public) and non-governmental (private).

Concerning the analysis approach, this survey research applied descriptive analysis (mainly crosstabs) showing the level of basic financial literacy (based on correct and wrong answers) among the high school teenagers with respect to the five dimensions: numeracy, interest compounding, inflation, time value of money, and money illusion, such analytical approach is a common procedure among studies that investigated the level of basic financial literacy in various contexts (Lusardi & Mitchell, 2005; Oehler, et al., 2018; Van Rooij, Lusardi & Alessie, 2011).

4. RESULTS

In this specific section, the preliminary statistics and the major findings of the survey study are presented. The preliminary statistics provides general information regarding - (a) educational level of the participants, (b) age of participants, (c) gender, and (d) School types. After that, the main findings of the study pertaining to the basic financial literacy measurement results among the studied students in terms of numeracy, interest compounding, inflation, time value of money, and money illusion are provided.

4.1. Preliminary Statistics

Table1: Education level



	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Grade 9	207	28.5	28.5	28.5
Grade 10	193	26.6	26.6	55.1
Grade 11	172	23.7	23.7	78.8
Grade 12	154	21.2	21.2	100.0
Total	726	100.0	100.0	

As it can be seen from Table 1 above, out of the total of 726 students that took part in the study, 28.5% were grade 9 students, 26.6% were grade 10 students, 23.7% were grade 11 students, and 21.2% were grade 12 students. This distribution shows that almost equal number of students participated in the study from the four grades from the high schools in Addis Ababa.

Table 2: Age of participants

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 13.00	1	.1	.1	.1
14.00	17	2.3	2.3	2.5
15.00	98	13.5	13.5	16.0
16.00	170	23.4	23.4	39.4
17.00	205	28.2	28.2	67.6
18.00	170	23.4	23.4	91.0
19.00	46	6.3	6.3	97.4
20.00	15	2.1	2.1	99.4
21.00	3	.4	.4	99.9
22.00	1	.1	.1	100.0
Total	726	100.0	100.0	

Table 2 shows that the ages of the students that have participated in the study ranges from 13 to 22. But as can be seen from the table the majority of the students fall within the range of ages 15 to 18 (661 students=91%). There are only 65 (9%) students who fall outside the age range of teenagers but they are still in high school. This encounter is common in Ethiopian high schools as not everyone has the opportunity to start going to school at earlier age. These students are also included in the study because obviously they are still high school students.

Table 3: Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	335	46.1	46.1	46.1
female	391	53.9	53.9	100.0
Total	726	100.0	100.0	

Table 3 above shows the gender distribution of the participants. Accordingly, 46.1% and 53.9% of the participants were males and females respectively. This indicates that the

number of female students who participated in the study is greater than the number of male students.

Table 4: School type

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid public	405	55.8	55.8	55.8
private	321	44.2	44.2	100.0
Total	726	100.0	100.0	

Table 4 displays that while 55.86% of the participants were drawn from public high schools, the remaining 44.2% were from private high schools. This makes sense to see more of public high school students in this study as the majority of the high schools in the country are public/government owned.

4.2. Major Findings

4.2.1. Aggregate Findings

This section demonstrates the major findings of the study that measures the basic financial literacy of the high school students as per L&M approach.

Table 5: Numeracy knowledge Assessment

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid More than \$102	499	68.7	68.7	68.7
exactly \$102	59	8.1	8.1	76.9
Less than \$102	80	11.0	11.0	87.9
do not know	66	9.1	9.1	97.0
Refusal	22	3.0	3.0	100.0
Total	726	100.0	100.0	

Table 5 displays the result of the numeracy assessment question, and the question asked was “Suppose you had €100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?” , the result shows that only 68.7% of the respondents get the correct answer. The rest, 31.3% of the respondents (227 students) did not answer it correctly.

A numeracy measurement is the most easiest understanding in the field of financial literacy, but still 31.3% of the respondents failed to get the correct answer and this is a disturbing amount as it means that those who failed to get the correct answer did not have the basic understanding that the money that is kept in a bank earns interest or even some might thought that their money in their bank account gets smaller by the day without even withdrawing their money, for example 80 students (11%) indicated a similar notion to the later idea.

Table 6: Interest compounding knowledge assessment

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid more than 200	211	29.1	29.1	29.1
Exactly 200	308	42.4	42.4	71.5
less than 200	122	16.8	16.8	88.3
do not know	63	8.7	8.7	97.0
Refusal	22	3.0	3.0	100.0
Total	726	100.0	100.0	

Table 6 shows result of the interest compounding question; and the question asked was: “Suppose you had €100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?” This aspect of the basic financial literacy assessment examines participants’ understanding/knowledge of whether interest itself earns interest income while the money is still deposited in a bank and started to earn an interest already, and a very worrying result is discovered. It is only 29.1% (=211 students) of the students that have answered this question correctly. The rest, a huge proportion of 70.9% (= 515 students) of the participants did not get the correct answer. This is a very concerning finding.

Table 7. Inflation knowledge assessment

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid more than today	169	23.3	23.3	23.3
exactly the same	86	11.8	11.8	35.1
less than today	302	41.6	41.6	76.7
do not know	140	19.3	19.3	96.0
Refusal	29	4.0	4.0	100.0
Total	726	100.0	100.0	

Table 7 demonstrates the result of the financial literacy assessment result concerning the participants understanding of inflation. The question asked was: “Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?” This question specifically explores whether or not the participants were aware that when inflation is higher (than the saving rate) the value of their money gets weaker. This time 41.6% (302 students) of the respondents got the correct answer.

However, we should note that a greater proportion 58.4% of the respondents (=424 students) failed to answer the question correctly. More disturbing, 23.3% of the participants believed that in the face of inflation, their money will keep appreciating; which is quite contrary to the reality. And yet, 11.8% of the respondents think that the inflation will have no effect on the purchasing power of their money. Such are very distressing results.

Table 8: Assessment of knowledge of Time value of money

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid my friend	271	37.3	37.3	37.3
his sibling	197	27.1	27.1	64.5
they are equally rich	122	16.8	16.8	81.3
do not know	107	14.7	14.7	96.0
Refusal	29	4.0	4.0	100.0
Total	726	100.0	100.0	

Table 8 depicts the result of the participants' knowledge of time value of money, the question assessed whether they are aware that money earned sooner is better than money earned later as interest income can be earned if one has it sooner than later. The question asked was: "Assume a friend inherits €10,000 today and his sibling inherits €10,000 3 years from now. Who is richer because of the inheritance?" Obviously, based on the notion of the time value of money, the one who has it sooner (a friend) is better off than the one who will have it later (his sibling). Again, a shocking amount – 62.7% (455 students) did not get the correct answer. There were still considerable number of students (16.8%) who said they are equally rich. Worse, 27.1% thought that the sibling is richer. Such are very perturbing results.

Table 9: Money illusion Assessment

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid more than today	144	19.8	19.8	19.8
the same	386	53.2	53.2	73.0
less than today	67	9.2	9.2	82.2
do not know	83	11.4	11.4	93.7
Refusal	45	6.2	6.2	99.9
22.00	1	.1	.1	100.0
Total	726	100.0	100.0	

Table 9 shows the result of the money illusion question. The question asked was: "Suppose that in the year 2019, your income has doubled and prices of all goods have doubled too. In 2019, how much will you be able to buy with your income?" Obviously, in such a situation a person will be able to buy less. Look, 19.8 % stated quite the opposite and said they would be able to buy even more. A massive proportion of 53.2% stated it would be the same. Only 9.2% of the respondents provided the correct answer. This is again another very disturbing result. Imagine, in aggregate together 90.8 % of the participants gave wrong answers.

4.2.2. Results by School types: public vs. private

The aggregate results above (both the public and private schools combined) revealed unsatisfactory results. Still, it will be intriguing to examine comparatively the results on the five financial literacy measurement items by way of comparing the results of public school students verses the private school students using crosstabs.

Table 10: School type*Numeracy

		School type		Total
		Public	private	
Numeracy: Suppose you had €100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	More than \$102	237	262	499
	exactly \$102	45	14	59
	Less than \$102	63	17	80
	Do not know	46	20	66
	Refusal	14	8	22
Total		405	321	726

Table 10 above portrays the numeracy assessment result by school type. Accordingly, 58.52% (237 students) of the public school students properly answered the numeracy question, and 81.62% (262 students) of the private school students correctly answered the numeracy question. Based on this sample based finding, the students from the private schools have better understanding of numeracy.

Table 11: School type*Interest compounding

		School type		Total
		public	private	
Interest compounding: Suppose you had €100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?	more than 200	128	83	211
	Exactly 200	127	181	308
	less than 200	87	35	122
	do not know	47	16	63
	Refusal	16	6	22
Total		405	321	726

Table 11 shows the cross tabulation result to compare the responses of the respondents for the interest compounding assessment from the two types of schools. While 128 (31.6%) public school students answered this correctly, it is only 83 (25.86%) of the private school students that have got the correct answer for this particular question. With this regards, the public school students performed better in this than the private school students. But, this is uncommon finding to note as it makes us wonder how student groups who performed less in numeracy competence score better in interest compounding.

Table 12: School type*Inflation



		School type		Total
		public	private	
Inflation: Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	more than today	100	69	169
	exactly the same	64	22	86
	less than today	136	166	302
	do not know	88	52	140
	Refusal	17	12	29
	Total	405	321	726

Table 12 demonstrates the cross tabulation result for inflation question, and public high school students(136=33.58%) performed less than the private high school students (166=53.71%). So, as per this study the private school students have a better understanding about inflation.

Table 13: School type*Time value of money

		School type		Total
		public	private	
Time value of money: Assume a friend inherits €10,000 today and his sibling inherits €10,000 3 years from now. Who is richer because of the inheritance?	my friend	114	157	271
	his sibling	106	91	197
	they are equally rich	88	34	122
	do not know	78	29	107
	refusal	19	10	29
	Total	405	321	726

Table 13 illustrates the comparative result for time value of money. Accordingly, 114 students (= 28.15%)from the public schools answered it correctly and 157 students (=48.9%) from the private high schools got the correct answer. This implies that although the overall rating for both groups is still low, the private high school students have a better understanding of the time value of money.

Table 14: School type*Money illusion

		School type		Total
		public	private	
Money illusion: Suppose that in the year 2019, your income has doubled and prices of all goods have doubled too. In 2019, how much will you be able to buy with your income?	more than today	102	42	144
	the same	159	227	386
	less than today	49	18	67
	do not know	59	24	83
	refusal	35	10	45
	22.00	1	0	1
Total	405	321	726	

Table 14 shows the money illusion result across the two school types. Accordingly, public school students scored better (49=12.09%) than private school students (18=5.6%). This indicates that relatively the public school students have better understanding of money illusion.

5. DISCUSSION

This survey study endeavored to demonstrate the level of financial literacy among high school students in Addis Ababa, Ethiopia. A total of 726 high school students from private and public high schools in Addis Ababa participated in the study. Fairly proportional number of students have participated in the survey from the four grade schools in the high schools - 28.5% of the respondents were grade 9 students, 26.6% were grade 10 students, 23.7% were grade 11 students, and 21.2% were grade 12 students.

The study result showed that the level of financial literacy among the high school students in Addis Ababa is unsatisfactory. The results show that there is a grave concern regarding the basic financial literacy levels of the students in all the five aspects of the basic financial literacy assessment dimensions.

Accordingly, the survey result determined that 31.3% of the respondents failed to correctly answer the numeracy assessment question; a monumental amount - 70.9% of the participants failed to correctly answer the interest compounding assessment questions; 58.4% of the respondents failed to correctly answer the inflation assessment question; still a great proportion - 62.7% of the students did not get the correct answer for the time value of money assessment question; and a huge proportion - 90.8% of the participants gave wrong answer to the money illusion assessment question.

6. CONCLUSION

This study was initiated to survey the level of basic financial literacy among high school students in Addis Ababa, Ethiopia's capital. Such a study corresponds to global initiatives such as by OECD requesting scholars to show case the level of financial literacy among young people in different countries/contexts. The study concludes that the level of financial literacy is not fairly good among high school students in Addis Ababa, capital of Ethiopia.

The high school students in the capital are not well versed with the basic financial literacy dimensions/measurements, particularly with the assessments of interest compounding, inflation, time value of money, and money illusion. The worst assessment results are a 90.8% failure in the money illusion question, a 70.9% failure in interest compounding assessment question, and a 62.7% failure in the time value of money assessment question.

These are followed by a 58.4% failure in the inflation assessment question and a 31.3% failure in the easiest assessment question of numeracy. By and large, these findings testify that the high school students in Addis Ababa have serious deficiency in basic financial literacy.



7. RECOMMENDATION

This study was performed with the aim of extending financial literacy research in underexplored parts of the world such as in the context that this study was carried out. Equally important, this study will also have valuable contribution to provide useful input to policy makers and educators regarding the level of financial literacy among high school teenagers/youngsters who are at school.

Accordingly, the study loudly exhibited that the level of financial literacy among the high school students in Addis Ababa (Ethiopia's capital) is highly upsetting. Policy makers and educators may need to seriously pay attention to this shocking deficiency in the level of basic financial literacy among the high school students and take measures to educate the youth this basic life skill at young age while they are still at school.

Incorporating rigorous curricula that educates the youth of basic knowledge and skills of financial literacy will be beneficial. In addition, in this study, high school students were drawn only from high schools in Addis Ababa, the capital of Ethiopia. Other researchers are encouraged to take this limitation as an avenue for future research by expanding the scope of the study by way of surveying the level of basic financial literacy among high school students from other regions in the country. .

REFERENCES

- Agarwal, S., Amromin, G., Ben-David, I., Chomsisengphet, S., & Evanoff, D. D. (2015). Financial literacy and financial planning: Evidence from India. **Journal of Housing Economics**, 27, 4-21.
- Arceo-Gomez, E. O., & Villagómez, F. A. (2017). Financial literacy among Mexican high school teenagers. **International Review of Economics Education**, 24, 1-17.
- Boisclair, D., Lusardi, A., & Michaud, P.-C. (2017). Financial literacy and retirement planning in Canada. **Journal of Pension Economics & Finance**, 16(3), 277-296.
- Elifneh, Y. W. (2018) Financial Literacy: What Can We Learn From the Literature? In Tolossa D. (ed), Accelerating Financial Inclusion with Innovative Financial Services for Sustainable Development in Ethiopia. **Papers and Proceedings of the Tenth Biennial Conference, Association Of Ethiopian Microfinance Institutions (AEMFI)**, Mekele, 2018.
- FEG (2012). PISA 2012 **Financial Literacy Assessment Framework**, Doc:FinLit_Frmwrk_PISA12, available at <https://www.oecd.org/pisa/pisaproducts/46962580.pdf>, accessed on September 25, 2018.
- Hastings, J., Madrian, B., & Skimmyhorn, W. (2012). Financial Literacy, Financial Education and Economic Outcomes. **NBER Working Paper**, 18412.



- Huston, S. (2010). Measuring Financial literacy, **The Journal of Consumer Affairs**, 44(2), 296-316
- Jang, K., Hahn, J., & Park, H. J. (2014). Comparison of financial literacy between Korean and US high school students. **International Review of Economics Education**, 16, 22-38.
- Kothari, C. R. (2004). **Research methodology: Methods and Techniques**: New Age International.
- Lusardi, A., & Mitchell, O. S. (2005). **Financial literacy and planning: Implications for retirement wellbeing**: Michigan retirement Research Center, Michigan
- Mandell L. (2008) Financial Literacy of High School Students. In: Xiao J. J. (eds) **Handbook of Consumer Finance Research**. Springer, New York, NY. https://doi.org/10.1007/978-0-387-75734-6_10
- Mouna, A., & Anis, J. (2017). Financial literacy in Tunisia: Its determinants and its implications on investment behavior. **Research in International Business and Finance**, 39, 568-577.
- OECD, & INFE. (2011). **Measuring Financial Literacy: Core Questionnaire in Measuring Financial Literacy**: Questionnaire and Guidance Notes for conducting an Internationally Comparable Survey of Financial literacy. Paris: OECD, available at <http://www.oecd.org/daf/fin/financial-education/49319977.pdf>, accessed on September 25, 2018.
- Oehler, A., Horn, M., Wendt, S., Reisch, L. A., & Walker, T. J. (2018). Young Adults and Their Finances: An International Comparative Study on Applied Financial Literacy. **Economic Notes: Review of Banking, Finance and Monetary Economics**, 47(3), 305-330.
- Patton, M. Q. (2002). **Qualitative evaluation and research methods**. London: Sage Publications.
- Peng, T. C. M., Bartholomae, S., Fox, J. J., & Cravener, G. (2007). The impact of personal finance education delivered in high school and college courses. **Journal of family and economic issues**, 28(2), 265-284.
- Robb, C. A. (2011). Financial knowledge and credit card behavior of college students. **Journal of family and economic issues**, 32(4), 690-698.
- Van Rooij, M. C., Lusardi, A., & Alessie, R. J. (2011). Financial literacy and retirement planning in the Netherlands. **Journal of Economic Psychology**, 32(4), 593-608.
- Willis, L. E. (2008). Against financial-literacy education. **Iowa L. Rev.**, 94, 197-285.
- Willis, L. E. (2009). Evidence and ideology in assessing the effectiveness of financial literacy education. **San Diego L. Rev.**, 46, 415 -458.
- Worthington, A. C. (2006). Predicting financial literacy in Australia. **Financial Services Review**, 15(1), 59-79.
- Xu, L., & Zia, B. (2012). **Financial Literacy Around the World: An Overview of the Evidence with Practical Suggestions for the Way Forward**. World Bank Policy Research Working Paper No. 6107.
- Yin, R. K. (2003a). **Case studies research: Design and methods** (2 ed.). Thousand Oaks, CA: Sage



APPENDIX - QUESTIONNAIRE

The questionnaire is based on the instrument originally developed by Lusardi and Mitchell (2005), and this study uses the slightly updated version used by Van Rooij, Lusardi, and Alessie (2011)

Section 1 - Demographic variables

1. Age _____
2. Gender Male Female
3. Education level (Tick one)
9th 10th 11th 12th
4. School type Public Private

Section 2 - basic financial literacy measurement questions

(Q1) **Numeracy:** Suppose you had €100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

- (i) More than €102
- (ii) Exactly €102
- (iii) less than €102
- (iv) do not know
- (v) refusal

(Q2) **Interest compounding:** Suppose you had €100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total?

- (i) More than €200
- (ii) exactly €200
- (iii) less than €200
- (iv) do not know
- (v) refusal



(Q3) **Inflation:** Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

- (i) More than today
- (ii) exactly the same
- (iii) less than today
- (iv) do not know
- (v) refusal.

(Q4) **Time value of money:** Assume a friend inherits €10,000 today and his sibling inherits €10,000 3 years from now. Who is richer because of the inheritance?

- (i) My friend
- (ii) his sibling
- (iii) they are equally rich
- (iv) do not know
- (v) refusal

(Q5) **Money illusion:** Suppose that in the year 2019, your income has doubled and prices of all goods have doubled too. In 2019, how much will you be able to buy with your income?

- (i) More than today
- (ii) the same
- (iii) less than today
- (iv) do not know
- (v) refusal