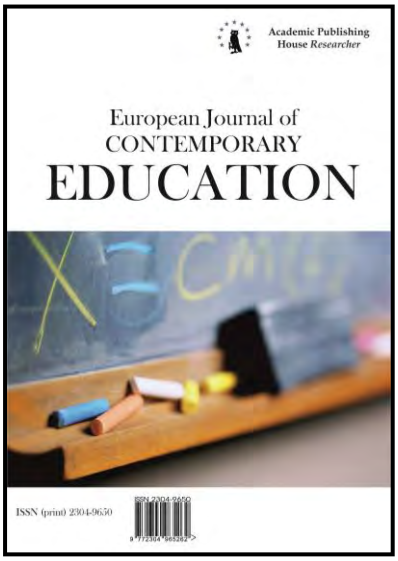
Published in the Slovak Republic
European Journal of Contemporary Education
E-ISSN 2305-6746
2021. 10(3): 626-637
DOI: 10.13187/ejced.2021.3.626
www.ejournal1.com



Money Management, Savings and Investment as Central Topics in Financial Education: How Do High School Students Perceive Them?

Arturo García-Santillán [a, *], Teresa Zamora-Lobato [a], Violetta S. Molchanova [b, c]

[a] Misantla Institute of Technology (MIT) at National Technology of Mexico, Mexico
[b] Cherkas Global University (International Network Center for Fundamental and Applied Research), Washington, USA
[c] Volgograd State University, Volgograd, Russian Federation

Abstract

The purpose of the study focused on analyzing how high school students perceive the topics of money management, savings and investment. For this purpose, it was necessary to use the instrument designed by the National Commission of Retirement Savings Systems (2017) from which the items on money management, savings and investment were taken. The sample was non-probabilistic by self-determination, and the instrument was applied to a total of 207 young people born between 2000 and 2001 in the municipalities of Cosamaloapan and Carlos A. Carrillo belonging to the state of Veracruz. The data were captured in SPSS v23 software for descriptive analysis. The main findings suggest that there are diverse conceptions about the financial terms under study, such is the case of the effect of inflation, likewise the participants had difficulty in performing arithmetic operations that would lead them to answer correctly, they did not know what type of mathematical operation they should do and selected an answer option at random. In selecting the best option for saving money, most participants appropriately chose the financial tool. Regarding the protection of family savings in the face of inflation, four savings possibilities were presented. However, the decision for a specific instrument is not clear. This exposes the lack of knowledge of the operating mechanisms and purpose of each financial tool. The deficiencies identified in making decisions regarding money expose the need to formalize financial education for young people.

Keywords: financial education, money management, savings, investment.

* Corresponding author
E-mail addresses: agarcias@ucc.mx (A. García-Santillán)

1.1. Introduction

Problem statement

Financial inclusion has been widely recognized as a critical determinant in poverty reduction and equitable economic growth, as participation in the financial system promotes the initiation and improvement of businesses, investments, risk management and shields against financial crises. Access to formal savings and payment mechanisms actually increases savings, empowers disadvantaged groups such as women, rural communities and youth, increasing consumption, productive investment and employment. Political and regulatory authorities in one hundred and forty-three economies have established dependencies and information management in this important area; currently at least fifty governments have formal financial inclusion goals and objectives (Demirguc-Kunt et al., 2015).

However, a large part of the population does not have access to financial services. Several authors analyze the determinants of financial inclusion in different regions of the world. In the work of Zinz & Weill (2016), various indicators of financial inclusion are considered for some African countries, finding population groups less likely to be included in the financial system: women, youth and the population with lower income and education. In turn, Fungáčová & Weill (2015) also detect similar profiles of population excluded from the financial system for the group of countries with large territory and population called BRICs – Brazil, Russia, India and China. These investigations shed light on the need to implement financial inclusion policies specific to the profiles of excluded individuals in developing countries (Orazi et al., 2019).

Lagarde (2016) reports that, in previous years, financial inclusion was a key point on the planner of politicians and economists, becoming one of reform at international and national level, thus the United Nations and the International Monetary Fund have taken this orientation and where at least sixty governments around the world have set financial inclusion goals.

Macroeconomic effects are reflected through individual welfare, where financial inclusion has a significant impact at a national and international level, intervening in growth and stability. Trends in financial inclusion show that in regions of Africa, money transacted in mobile accounts exceeds that transacted over the counter. In India, commercial bank accounts have increased by more than fifty percent, as well as emerging markets and low-income economies show rapid and marked growth. It is clear that financial inclusion leads to economic growth and income equity and how strengthening the financial sector provides for the disadvantaged sectors of women and low-income people. New technologies, especially digital financial services, will provide enormous opportunities for business and growth (Op. cit).

The development of the financial system guides economic growth, capital accumulation and long-term productive growth. It has been demonstrated that the relationship between financial development and long-term economic growth influences the developing economy to advanced development (Levine, 2005).

On the other hand, the growing consumer credit is a fact, however, the skills required to manage it and the associated risks permeate the importance of financial education every day, which is why efforts to achieve development and income equity need to be transmitted to young people so that their early financial decisions are taken from the perspective of an educated financial inclusion (Lusardi, 2015).

For the specific case of the national context, Mexico being a developing economy, where important lines have been implemented to achieve it, such as competitiveness, SMEs, legal certainty, among others, must develop a current and inclusive financial system that promotes growth and economic equity, through access, use and protection of users.

For this, there must be a level of financial education in terms of spending, saving, financing, investment and asset insurance, which allows for economic progress, thus leading to the growth of individuals. Lusardi (2015) reports that in Mexico the financial education of young people presents a poor performance response and where there are currently important advances such as the Alliance for Education and the Educational Reform.

In Mexico, according to the white book on financial inclusion (CNBV, 2012), a large part of the population lives in rural congregations or municipalities characterized by an uncertain economic and demographic outlook, where financial groups discriminate against them by catering to the concentrated population and with a medium-high or high socioeconomic level, focusing more on populations with more resources, institutions and large companies, financing and financial services required for development.

For its part, the information provided in the Financial Inclusion Survey (INEGI, 2015), establishes the discrimination or gender gap in terms of four percent in generalized form, seventeen percent in terms of savings accounts and five percent in terms of mobile money, with women representing the market niche that, when included, provide development to the economy and to individuals.

With these arguments, the following question arises: How do students perceive the topic of money management, savings and investment? Hence, the objective is focused on: To analyze how high school students perceive the topics of money management, saving and investment.

1.1.1. Justification

Today, Financial Education is one of the driving forces of social development, since it allows the generation of human capital, but especially because it offers better life alternatives by making appropriate financial decisions. Therefore, it is a topic of interest for everyone. The permanent evolution of the financial world means that every day more and more financial products and services are offered for all kinds of needs, taking into account the particular demands of each sector. With an adequate financial education, individuals will have the indispensable knowledge to create their own savings plans, strategic investment decisions for their retirement or their children's education; where technology plays a very essential role in everything related to financial operations.

In the context of Mexican households in terms of financial education, the conclusions of the Banamex-UNAM survey (2008), show that in most cases there is no medium – or long-term vision in matters related to finances, 80 % of households do not have income planning, expenditure or savings records, the budget is oriented to cover the immediate, the priorities are for food, health and education.

Twenty percent of the population allocates income to savings, only fourteen percent does it formally, and only fourteen percent does it informally, in the form of "tandas". There is a higher level of trust in banking institutions when asking for a loan. Among the best investment options is the establishment of a business or the ownership of real estate.

At the international level, current financial experts such as Beck, Demirguk and Levine (2004) have found that half of the world's population suffers the scourge of poverty, living on less than two dollars, that more than one sixth lives on less than one dollar, and that financial development reduces income inequalities and boosts the welfare of the unprotected sector, where countries with better development of their financial intermediaries experience rapid decreases in poverty and inequality, reversing and enhancing this causality. Despite the difficulties in identifying the determinants involved in the case of income equity, the vast majority of empirical research establishes that financial development alleviates poverty and boosts growth.

According to Mejía (2016), the real estate crisis of 2008, due to its effects on the world, even more serious than the Great Depression of 1930, brought with it devastating effects in terms of loss of purchasing power, indebtedness and misuse of financing, which affected many. However, it is the poor and middle classes who are stripped of their few assets to cover basic needs, and it is here where financial inclusion and education could circumvent such effects and cope with their consequences. These arguments are some of the reasons for conducting this study, which seeks to answer the central research question.

2. Discussion

2.1. Financial Education

While it is recognized that there is no generally accepted definition of the concept of financial inclusion, in Mexico, the National Council for Financial Inclusion (CONAIF, 2015) defines it as follows: "Access to and use of formal financial services under appropriate regulation that guarantees consumer protection schemes and promotes financial education to improve the financial capabilities of all segments of the population" (CONAIF, 2015: 1). Given the purposes of this study and its focus on the Mexican case, this definition is the one used for measurement purposes and statistical estimation.

The Center for Financial Inclusion considers financial inclusion to be the access of all people to a full range of quality financial services, provided at affordable prices, in a convenient and dignified manner (Global Banking Alliance for Women, Data2X & Multilateral Investment Fund of the Inter-American Development Bank, 2015), the above cited by Girón et al., 2018.

Lusardi (2006, 2008, 2010 cited in García-Santillán et at., 2017) has referred in multiple studies that individuals have little knowledge about financial terms. Therefore, among the actions carried out by the United Nations (UN) to increase financial inclusion, in 2009 the United Nations appointed Queen Máxima of the Netherlands as special advisor on financial inclusion for development. It is from this country that the Child and Youth Finance International (CYFI) movement was created in 2012, supported by the United Nations Children's Fund (UNICEF).

In this regard, Zamora (2016) mentions that there are several arguments that have been put forward on the subject of financial inclusion, and that there have been several proposals that have contributed to the state of knowledge on the subject by different authors, from the proposal for teaching mathematics (García-Santillán et al., 2010; García-Santillán et al., 2014), in empirical studies that have measured the level of financial education in different countries and contexts, to those proposed by international organizations such as UNESCO and the OECD.

Inquiring about previous works carried out for Mexico, regarding these studies, we have the works of Venegas, Tinoco and Torres (2008), Rodríguez and López (2009), Zavaleta and Urbina (2011), Salazar-Cantú, Rodríguez-Guajardo and Jaramillo-Garza, (2017), have studied financial development in Mexico and its effect on the growth of this country. While Venegas et al., (2008), find that financial development has not influenced the growth of Mexican gross domestic product, Rodríguez and López (2009) and Zavaleta and Urbina (2011), employing different ways of measuring the development of the Mexican financial system, obtain a positive effect of this towards the country's economic growth.

An ethnographic study conducted among poor households in Bangladesh, India, Mexico and South Africa, Collins, Morduch, Rutherford and Ruthven (2011), found that credit availability tends to be lower for poor people. In relation to loan schemes in formal institutions, they are less adapted to the volatility characteristic of the income of this group, they observe less flexible terms than those that their exposure to risk would demand, and when it exists, it usually exhibits higher interest rates, compared to those to which the non-poor public has access. Thus, they conclude that financial inclusion requires not only the possibility of access, but also new financing schemes that recognize this profile of agents.

Mandel (2006) made an important finding in his study of high school seniors who have a high level of financial literacy, which found that this level of financial literacy scores made students less likely than others with different levels to manage their checkbooks optimally, i.e., they would be more likely to balance their checkbooks.

In the same vein, in a study of Dutch adults, van Rooij, Lusardi and Alessie (2007) found that those with low financial literacy are more likely than others with higher literacy to base their behavior on financial advice from friends and are less likely to invest in stocks.

The low levels of financial education in the population have already been documented in different studies, such as the work of Lusardi (2006, 2008, 2010), García-Santillán, Contreras-Rodríguez, Moreno-García (2017), who have referred that individuals have little knowledge about financial terms. For this reason, among the actions that the United Nations (UN) carries out to increase financial inclusion, in 2009 it appointed Queen Máxima of the Netherlands as special advisor on financial inclusion for development. It is from this country that the Child and Youth Finance International (CYFI) movement was created in 2012, supported by the United Nations Children's Fund (UNICEF). Its premise is that today's young people will be future economic actors, who will be the decision-makers.

For their part, the OECD and UNESCO (2012) with the Child and youth finance movement have redoubled their efforts on the subject, as they consider that financial education should be an essential topic for the progress of young people, which will result in the immediate future in financially competent adults who make sound financial decisions.

In addition, with all this and increases the probability that they are people who have access to financial services, translating this into people included, which becomes an advance in the issue of Financial Inclusion, as documented by Zamora (2016).

2.2. Money management

From his conceptual definition Widener (2017) has referred that money management is the efficient and effective management of money. In terms of personal financial management, this can occur through various behaviors: Common practices that contribute to financial success or struggle include owning a bank account, paying bills on time, using an expense tracking system, saving discipline, diversifying investments, using a retirement plan, owning a home, and understanding financial concepts.

At the time Hilgert, Hogarth and Beverly, (2003) pointed out that because college students do not yet have the responsibility of managing many of these financial issues, such as home ownership, then the scope of financial management is narrowed in the following sections: Budgeting, paying off credit card balances, savings habits, attitudes toward retirement planning, and debt accumulation.

While financial literacy is certainly an influence of financial decisions, the degree to which college students understand money is also a proxy for financial situations. Research indicates that most people agree that financial literacy is a significant determinant of quality of life and future decision making (Brougham et al., 2011). Despite this, college students, along with the general U.S. population, tend to score very low on financial literacy tests (Markovich, DeVaney, 1997, Cude et al., 2011; Beierlein, Neverett, 2013; Goetz et al., 2015).

In a study by Lusardi and Michell (2014) they demonstrated how a life-cycle optimization process can be shaped by consumer preferences (e.g., risk aversion and discount rates), the economic environment (e.g., risky investment returns and liquidity constraints), and social safety net benefits (e.g., the availability and generosity of Social Security welfare and benefit schemes), among other characteristics.

Another important factor influencing the financial situation of college students is their background, or more specifically, the financial situation of their parents. Family income is the starting point for any student, and regardless of current dependence on parental finances, this background affects college students' perspectives and behaviors regarding money (Graves, Savage, 2015).

While financial background certainly has an impact on perceptions and behaviors related to money, it also affects college affordability. Underclass and low-income students are offered need-based financial aid through grants, but these often do not cover the full cost of attending college. This results in the accumulation of student loans to fill the gap (Dwyer et al., 2012).

2.3. Savings and investment fund

In the study conducted by Chakraborty, Suman, Digal and Sabat (2011) conclude that the investment purpose can be related to the savings objective. Each individual investor selects the investment option for a given time period taking into account his or her personal financial objectives. The investment behavior of an individual investor reveals how he/she wants to allocate surplus financial resources to the various investment instruments available. Investment behavior consists of why they want to invest, how much of their disposable income they want to invest, for how many years/months they want to invest, and most importantly, the timing of such investment.

Several studies have found that information is an important factor when making the decision to invest, which influences the choice of investment and subsequently how they act after the investment (Kasilingam, Jayabal, 2008). For their part Kahneman and Tversky (1979) found in their paper, "Prospect Theory – An Analysis of Decision under Risk", that individuals make decisions based on the potential value of losses and gains, rather than the final outcome, and people evaluate these losses and gains using the shortcuts proposed by Tversky and Kahneman (1974), i.e., the heuristics of representativeness, accessibility, and fit and anchoring.

In the same idea, in another study conducted by Murithi-Suriya, Narayanan and Arivazhagan (2012), they revealed that women investors dominate the investment market in India. According to their survey, most investors are considering two or more sources of information to make investment decisions. Most investors discuss with their family and friends before making an investment decision.

Of course, the determinants of savings have been analyzed from the macroeconomic point of view, for example, Gupta (1970), using annual time series data in India, analyzed the determinants of savings, in his findings he showed that the permanent income hypothesis fits better in urban areas of India, while in rural areas savings behavior is more in line with the absolute income hypothesis. He found that the marginal propensity to save is an increasing function of income at lower levels of development.

On the other hand, there is a branch of the theoretical literature that departs from Feldstein Horioka's (1980) approach. These studies describe a strong saving-investment correlation in the presence of high capital mobility. On the other hand, they argue that the savings-investment correlation is due to other macroeconomic factors such as country size (Baxter, Crucini, 1993), non-tradable goods (Murphy, 1986; Wong, 1990), current account solvency Coakley (1996) and financial structure Kasuga (2004). But even here the empirical results from these studies vary considerably.

3. Methodology

This study has a non-experimental design, since it does not seek to manipulate the independent variables (X) in order to modify their effects (Y). The type of study is descriptive, cross-sectional, where each of the frequencies obtained from each of the indicators of the instrument used are described. The informants are the young people of generation Z, between 2000 and 2001, whose group is one of those directly benefiting from the pension payment. A percentage of young people will be selected within the municipalities of Cosamaloapan and Carlos A. Carrillo belonging to the state of Veracruz.

For the research, the sample was non-probabilistic by self-determination. For this study, the "Questionnaire" technique was applied, which consisted of sharing the instrument (detailed in the following point) physically with the students so that they could answer it in the different high schools to which access and application of the questionnaire was allowed. The total number of people to whom the instrument was applied was 207.

A questionnaire was used for the study, which was designed by the National Commission of Retirement Savings Systems [CONSAR] (2017) from which the questions that were considered relevant according to the study variables were taken. The questionnaire was divided into two topics which were: money management, savings and investment. Once the questionnaires were applied and the information was collected, the entire database was loaded into an Excel sheet, and then transferred to a SPSS v23 software sheet, to proceed with the analysis.

Analysis and interpretation of the information

From the analysis of the database obtained from the application of the instrument, the following descriptive results were obtained. In relation to the sociodemographic profile of the participants, Table 1 shows gender, age, marital status, employment status, medical service and relationship.

Table 1. Profile of participants

Genre		Frequency	Percentage	Cumulative percentage
Valid	Male		50.2	50.2
	Female	103	49.8	100.0
	Total		100.0	
Age		Frequency	Percentage	Cumulative percentage
Valid	14-15	58	28.0	28.0
	16-17	101	48.8	76.8
	18-19		22.7	99.5
	>19<21	1	.5	100.0
	Total		100.0	
Marital Status		Frequency	Percentage	Cumulative percentage
Valid	Free Union		1.0	1.0
	Separated	1	.5	1.4
	Divorced		1.0	2.4
	Married		2.9	5.3
	Single		94.7	100.0
	Total		100.0	
Employment Status		Frequency	Percentage	Cumulative percentage

Valid	No Work	1	.5	.5
	Just Study		76.8	77.3
	Est and Trab		22.7	100.0
	Total		100.0	
Medical Service		Frequency	Percentage	Cumulative percentage
Valid	Seg Popular		12.1	12.1
	IMSS		75.8	87.9
	ISSSTE		4.3	92.3
	Pemex	1	.5	92.8
	Defense or Navy	1	.5	93.2
	Other Medical Facility		1.0	94.2
	No entitlement	1	5	94.7
	Do not know		5.3	100.0
	Total		100.0	
Relationship		Frequency	Percentage	Cumulative percentage
Valid	1.00		4.3	4.3
	2.00		1.0	5.3
	3.00		73.4	78.7
	4.00		15.9	94.7
	6.00		5.3	100.0
	Total		100.0	

Source: own

As shown in Table 1, the participants are equally distributed in both genders. The predominant ages are in the range of 16 to 17 years (49 %), and the remaining percentage is distributed between the ages of 14 to 15 years and 18 to 19 years. Only one student was in the 19 to 21 age range. With respect to their marital status, 95 % indicated that they were single. However, 5 % said they were in some type of relationship (common-law, separated, divorced or married). On the other hand, regarding employment status, 23 % said they were studying and working and 77 % were only studying.

However, 76 % said that their medical service was provided by the Mexican Social Security Institute (IMSS), 12 % by the Seguro Popular, and 9 % by the Institute of Security and Social Services for State Workers (ISSSTE). Three percent of the participants stated that they had medical services provided by Pemex, Defense, Navy or did not know this information. In relation to the household, 73 % said they lived with their parents, 16 % with their grandparents, 7 % with other relatives and 4 % said they were heads of household.

Regarding the knowledge of Money Management, Table 2 shows the results.

Table 2. Frequencies of the variable Money management

AdMoney1	Frequency	Percentage	Accumulated
a) Afore		12.6	12.6
b) Pensions	163	78.7	91.3
d) Social Security		7.2	98.6
5.00		1.4	100.0
Total		100.0	
AdMoney2	Frequency	Percentage	Accumulated
a) Working couples with large retirement savings		10.6	10.6
b) Elderly people living on their retirement.		47.3	58.0
c) Young couples who both work and have no children.		6.3	64.3
d) Young couples who both work and have children.		32.4	96.6
5.00		3.4	100.0
Total		100.0	
AdMoney3	Frequency	Percentage	Accumulated
a) Basic policy		55.6	55.6

	Frequency	Percentage	Accumulated
b) Civil liability.		11.6	67.1
c) Damage to third parties.		11.1	78.3
d) Unlimited coverage		21.3	99.5
5.00	1	.5	100.0
Total		100.0	
AdMoney4	Frequency	Percentage	Accumulated
a) You are covered by your parents' insurance until you get married, regardless of your age.		43.5	43.5
b) If parents become unemployed, their insurance coverage may stop, regardless of their age.		30.0	73.4
c) Young people do not need health insurance, since they are so healthy.		3.9	77.3
d) You can continue to be covered by your parents' insurance, as long as you live in the country.	45	21.7	99.0
5.00		1.0	100.0
Total		100.0	

Source: own

As shown in Table 2, the results of the variable "Money Management", which is composed of four items, indicate the following: In the first of the items the participant is questioned about the denomination of retirement income that is paid by a company. Seventy-nine percent mentioned that it refers to pensions, 13 % indicated that it is called afore, 7 % said that it is social security and 1 % did not answer.

The second item asks who will have the greatest problems during periods of high inflation lasting several years. Forty-seven percent said that older people who live on their retirement are the ones who will have the greatest problems. In contrast, 32 % said that young couples, where both work and have children, will have the most problems. However, 17 % believe that couples who work and have high retirement savings or who do not have children will have the most problems during periods of inflation. The remaining percentage did not respond on this aspect.

Also, as part of the variable "Money Management" we asked about the type of car insurance that would cover the damages to the car itself in case of an accident. In the results it was found that 56 % mentioned that it is the basic policy and 21 % expressed that it would be the unlimited coverage. However, 23 % considered that the type of insurance is the civil liability or third-party damage insurance.

The fourth item refers to the health benefits that many young people receive through their parents. In this item, 44 % believe that they will have their parents' insurance until they get married, regardless of age. Thirty percent express that insurance coverage may end if parents become unemployed. On the other hand, 22 % indicate that as long as they live in the country they will continue to be covered by their parents' insurance and 4 % mention that young people do not require health insurance because they are healthy.

Regarding knowledge of Savings and Investment, Tables 3 and 4 show the results.

Table 3. Frequencies of the variable Savings and Investment

Savings and Investments1	Frequency	Percentage	Accumulated
3 months		19.8	19.8
4 months		66.7	86.5
1 month		4.3	90.8
2 months		8.2	99.0
5.00		1.0	100.0
Total		100.0	
Savings and Investments2	Frequency	Percentage	Accumulated
a) They each have the same amount because they are exactly the same age.		37.2	37.2
b) Tito, because he saved more each year		13.5	50.7
c) Maria, because she has taken away more money		9.7	60.4

d) Maria, because her money has grown longer with compound interest.		38.6	99.0
5.00		1.0	100.0
Total		100.0	
Savings and Investments3	Frequency	Percentage	Accumulated
a) Under the mattress at home.	5	2.4	2.4
b) On the stock exchange.		11.6	14.0
c) With corporate bonds.		6.8	20.8
d) In bank savings an account.	162	78.3	99.0
5.00	1	.5	99.5
7.00	1	.5	100.0
Total		100.0	
Savings and Investments4	Frequency	Percentage	Accumulated
a) A checking account.		5.8	5.8
b) Checking account.		13.5	19.3
c) Stock exchange.		8.7	28.0
d) Savings Account.		72.0	100.0
Total		100.0	

Source: own

Table 4. Frequencies of the variable Savings and Investment

Savings and Investments5	Frequency	Percentage	Accumulated
a) Down payment for the down payment on the house.	52	25.1	25.1
b) Checking account.		16.9	42.0
c) Stock exchange.		25.6	67.6
d) Savings Account.		31.4	99.0
5.00		1.0	100.0
Total		100.0	
Savings and Investments6	Frequency	Percentage	Accumulated
a) A savings bond.		27.5	27.5
b) A certificate of deposit in the bank.		25.6	53.1
c) A bond issued by one of the 31 states.		25.6	78.7
d) A federal treasury bond.		19.3	98.1
5.00		1.9	100.0
Total		100.0	
Savings and Investment7	Frequency	Percentage	Accumulated
a) A 10-year bond issued by a corporation.		14.5	14.5
b) A certificate of deposit in a bank.		30.9	45.4
c) A twenty-five year corporate bond.		15.9	61.4
d) A home financed with a fixed-rate mortgage.		34.8	96.1
5.00		3.9	100.0
Total		100.0	

Source: own

The variable "Savings and Investment" included seven items in which situations involving money are presented. In the first problem situation, a person's income and expenses are detailed, and a question is asked about the time it would take that person to achieve a savings of $600. 67 % stated that the savings would be achieved in 4 months, while 20 % considered that 3 months would be sufficient. Also, there are participants who expressed that the time required would be 2 months (8 %) and 1 month (4 %). One percent did not answer the question.

The second item of the variable "Savings and Investment" presents two savings situations and asks who has more money in their retirement account. Thirty-nine percent say that the person who has saved for more years has more money because of compound interest. However, 37 % say that they both have the same amount of money because they are the same age. On the other hand, 14 % say that the person who saved less years, but a greater amount of money is the one who would have more money in his or her retirement account.

In contrast, there are 10 % who selected an option that describes that one of the people is the one who has the most money because he/she is the one who "has taken away the most money".

Another item asked about the safest place to keep saved money that will be used continuously. Most of the participants mentioned that a bank account would be the safest place (78 %). This was followed by the stock market (12 %), corporate bonds (7 %) and under the mattress at home (2 %).

Now, the fourth item describes a couple who would like to save their baby's money and use it until he or she is 18 years old. Seventy-two percent said they would get the most growth in a savings account. However, the stock market is the best option for 14 %, followed by government bonds (9 %) and a checking account (6 %).

Savings for unexpected expenses or emergencies are considered in one item, asking which option would be the least beneficial to obtain the money immediately. The responses indicate that the least benefit is provided by the savings account (31 %), stock market (26 %), savings for a down payment on a house (25 %) and checking account (17 %).

In the savings programs there are some that are protected by the federal government. In one item of the variable "Savings and Investment", a list of four programs is provided and a request is made to indicate which of them is not protected by the federal government. The number of participants who indicated each option is similar. The highest percentage is savings bond (28 %), bank certificate of deposit and bond issued by one of the 31 states (26 % each) and a federal treasury bond (19 %).

Protecting a family's savings from a sudden increase in inflation requires an investment. Participants indicated that the best option to protect purchasing power would be a home financed with a fixed-rate mortgage (35 %) or a certificate of deposit in a bank (31 %). On the other hand, 16 % considered that a 25-year corporate bond or a 10-year bond issued by a corporation (15 %) would be desirable.

5. Conclusion

Four items intervened in the variable "Money management". The first item shows that the participants know what the retirement income paid by a company is called, by pointing out some of the correct names. However, when questioned about the effect of inflation, contradictory results were obtained. The diversity of opinions indicates that they really do not know how inflation impacts the population and, therefore, how it would reflect on themselves.

Now, in a situation closer to their environment and their immediate future, they were asked what type of auto insurance would cover the damage to their car. Although most of the participants answered correctly, more than a fifth of them expressed that liability insurance or third-party damages would be the one that would respond for the damages to their car, however, this situation shows the lack of knowledge of the terms of the policies that will have important consequences in the protection of their patrimony.

On the other hand, misconceptions about the health benefits they receive from their parents were identified. The expectation of having a health service for as long as they live in Mexico or until they get married, or in contrast, of not needing it because they are young, makes this sector of the population vulnerable to a medical situation.

In the "Savings and Investment" variable, savings situations were posed in which participants were asked to indicate when they would reach a certain amount of money or who would have the greatest savings. It was found that the participants had difficulty in performing appropriate arithmetic operations that would lead them to answer correctly or they did not know what type of mathematical operation they should perform and selected an answer option at random.

In the selection of the best option for saving in different circumstances, it was found that most of the participants chose the appropriate financial tool. However, there is a percentage of more than 20 % that indicate savings mechanisms that do not provide the required availability of the money, nor its security.

As for the protection of family savings in the face of inflation, four savings possibilities were presented. However, the decision for a specific instrument is not clear. This exposes the lack of knowledge of the operating mechanisms and purpose of each financial tool. The deficiencies identified in this study for making decisions regarding money demonstrate the need to formalize financial education for young people. Decisions made by young people should be within an educated financial inclusion to achieve development and equity (Lusardi, 2015).

The financial inclusion of young people, in addition to manifesting itself in individual benefits, is reflected in the macroeconomy (Lagarde, 2016). Furthermore, the financial education of young people is what will lead to financially competent adults, so that they can make appropriate decisions (Zamora, 2016).

For future work on the topic of savings in high school students, it would be worthwhile to continue with this study in order to expand the sample to a larger number of young students. In addition, it would be interesting to carry out comparative studies among students in different terms or academic cycles, even among different institutions.

References

Baxter, Crucini, 1993 – *Baxter, M., Crucini, M.* (1993). Explaining savings investment correlations. *American Economic Review*. 83(3): 416-36.

Beck et al., 2004 – *Beck, T., Demirguc-Kunt, A., Levine, R.* (2004). Finance, Inequality, and Poverty: Cross-Country Evidence. *NBER Working Paper*. 10979: 1-45. [Electronic resource]. URL: http://www.nber.org/papers/w10979.pdf

Beierlein, Neverett, 2013 – *Beierlein, J. J., Neverett, M.* (2013). Who takes personal finance? *Financial Services Review*. 22(2): 151-171.

BNMX-UNAM, 2008 – BNMX-UNAM (2008). First survey on Financial Culture in Mexico. [Electronic resource]. URL: https://www.compromisosocialbanamex.com.mx/pdfs/encuesta_corta_final.pdf

Brougham et al., 2011 – *Brougham, R.R., Jacobs-Lawson, J.M., Hershey, D.A., Trujillo, K.M.* (2011). Who pays your debt. An important question for understanding compulsive buying among American college students. *International Journal of Consumer Studies*. 35(1): 79-85. DOI: https://doi.org/10.1111/j.1470-6431.2010.00923.x

Chakraborty, Digal, 2011 – *Chakraborty, S., Digal, S.* (2011). A Study of Saving and Investment Behaviour of Individual Households – An Empirical Evidence from Orissa (2011). Personal Finance & Investments (PF&I) 2011 Conference. [Electronic resource]. URL: https://ssrn.com/abstract=2168305 or http://dx.doi.org/10.2139/ssrn.2168305

CNBV, 2012 – CNBV (2012). Libro blanco inclusión financiera. [Electronic resource]. URL: http://www.google.com.mx

Coakley et al., 1996 – *Coakley, J., Kulasi, F., Smith, R.* (1996). Current account solvency and the Feldstein-Horioka puzzle. *Economic Journal*. 106(436): 620-7.

Dwyer et al., 2012 – *Dwyer, R.E., McCloud, L., Hodson, R.* (2012). Debt and graduation from American universities. *Social Forces*. 90(4): 1133-1155.

Feldstein, Horioka, 1980 – *Feldstein, M., Horioka, C.* (1980). Domestic savings and international capital flows. *The Economic Journal*. 90: 314-29.

Fungáčová, Weill, 2015 – *Fungáčová, Z., Weill, L.* (2015). Understanding Financial Inclusion in China. *China Economic Review*. 34: 196-206. DOI: https://doi.org/10.1016/j.chieco.2014.12.004

García-Santillán et al., 2017 – *García-Santillán, A., Contreras-Rodríguez, B.A., Moreno García, E.* (2017). Perception of financial topics in high school students as an element of inclusion. An empirical study in the Veracruz region. *International Journal of Developmental and Educational Psychology*. 2(1): 513-526.

Girón et al., 2018 – *Girón, A., Vega Shiota, Vania de la, Vélez, D.* (2018). Financial inclusion and gender perspective: APEC member economies. *Mexico and the Pacific Rim*. (21): 27-51.

Goetz et al., 2011 – *Goetz, J., Cude, B.J., Nielsen, R.B., Chatterjee, S., Mimura, Y.* (2011). College-based personal finance education: Student interest in three delivery methods. *Journal of Financial Counseling and Planning*. 22(1): 27-42.

Graves, Savage, 2015 – *Graves, E., Savage, S.* (2015). Financial pasts, presents, and futures of community college students of a personal finance course. *Journal of Business & Finance Librarianship*. 20(1/2): 116-132. DOI: https://doi.org/10.1080/08963568.2015.977132

Gudmunson et al., 2015 – *Gudmunson, C.G., Zuiker, V.S., Katras, M.J., Sabri, M.F.* (2015). Enhancing personal and family finance courses using case studies. *College Student Journal*. 49(3): 321-330.

Gupta, 1970 – *Gupta, K.L.* (1970). Personal Saving In Developing Nations, Further Evidence, Economic Record, June House, PVT Ltd. New Delhi, pp. 126-130.

Hilgert et al., 2003 – *Hilgert, M.A., Hogarth, J.M., Beverly, S.G.* (2003). Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin*. 89(7): 309-322.

INEGI, 2015 – INEGI. (2015). National survey of financial inclusion; Informa operativo. [Electronic resource]. URL: www.inegi.org.mx/inegi/contenidos/espanol/prensa

Kahneman, Tversky, 1979 – *Kahneman, D., Tversky, A.* (1979). Prospect Theory: An Analysis of Decision Making Under Risk. *Econometrica*. Pp. 69-82.

Kasilingam, Jayabal, 2008 – *Kasilingam, R., Jayabal, G.* (2008). Impact of Family size and Family Income on the Investment Behaviour of Salaried Class investors. *Journal of Management & IT, OORJA*. 6(3): 93-107.

Kasuga, 2004 – *Kasuga, H.* (2004). Savings-investment correlations in developing countries. *Economics Letters*. 83(3): 371-6.

Lagarde, 2016 – *Lagarde, C.* (2016). IMF-CGD Event on "Financial Inclusion: Macroeconomic and Regulatory Challenges". Financial inclusion: "Macroeconomic and regulatory challenges". Pp. 1-4.

Levine, 2005 – *Levine, R.* (2005). Finance and Growth: Theory and Evidence. *Handbook of Economic Growth*. 1 (SUPPL. PART A): 865-934. DOI: 10.1016/S1574-0684(05)01012-9

Mandell, Schmid Klein, 2009 – *Mandell L., Schmid Klein, L.* (2009). The Impact of Financial Literacy Education on Subsequent Financial Behavior. *Journal of Financial Counseling and Planning*. 20(1).

Lusardi, 2015 – *Lusardi, A.* (2015). Financial Literacy Skills for the 21st Century: Evidence from PISA. *Journal of Consumer Affairs*. 49(3): 639-659. DOI: 10.1111/joca.12099

Lusardi, Michell, 2014 – *Lusardi, A., Michell, O.* (2014). The Economic Importance of Financial Literacy: Theory and Evidence. HHS Author Manuscripts, 52, 5-44. 2020, December 7, From US National Library of Medicine National Institutes of Health.

Markovich, DeVaney, 1997 – *Markovich, C.A., DeVaney, S.A.* (1997). College seniors' personal finance knowledge and practices. *Journal of Family & Consumer Sciences*. 89: 61-65.

Mejía Córdova, 2016 – *Mejía Córdova, G.* (2016). Impact on financial capabilities on employee well-being. *Revista de Estudios de Contaduría, Administración E Informática*. September (Year 4. No. 11): 1-23.

Murithi Suriya et al., 2012 – *Murithi Suriya, S., Narayanan, B., Arivazhagan, M.* (2012). Investors Behaviour in Various Investment Avenues – A Study. *International Journal of Marketing and Technology*. 2: 36-45.

Orazi et al., 2019 – *Orazi, S., Martinez, L.B., Vigier, H.P.* (2019). Financial inclusion in Latin America and Europe. *Essays in Economics*. 29(55): 181-204. DOI: https://doi.org/10.15446/ede.v29n55.79425

Verma, Saleh, 2011 – *Verma, R., Saleh, A.S.* (2011). Saving and investment in Saudi Arabia: an empirical analysis. *Studies in Economics and Finance*. 28(2): 136-148.

Salazar Cantú et al., 2017 – *Salazar Cantu, José de Jesús, Rodriguez Guajardo, R.C., Jaramillo Garza, J.* (2017). Financial inclusion and social cohesion in Mexican municipalities. *Mexican Journal of Economics and Finance*. 12(3): 45-66.

Widener, 2017 – *Widener, K.N.* (2017). Financial Management Issues of College-Aged Students: Influences and Consequences" (2017). Selected Honors Theses. 63. USA. [Electronic resource]. URL: http://firescholars.seu.edu/honors/63

Zamora-Lobato, 2016 – *Zamora-Lobato, T.* (2016). The level of financial education of high school youth and its influence on their perception of financial institutions. An empirical study in Xalapa, Veracruz (published thesis) Universidad Cristóbal Colón, UCC Business School, Veracruz, Mexico. [Electronic resource]. URL: http://www.eumed.net/tesis-doctorales/2016/mtjzl/ficha.htm

Zins, Weill, 2016 – *Zins, A., Weill, L.* (2016). The Determinants of Financial Inclusion in Africa. *Review of Development Finance*. 6(1): 16-57. DOI: https://doi.org/10.1016/j.rdf.2016.05.001