

Financial Literacy: Definition, edges, benefits and future lines of research

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This book presents an important contribution to the community, mainly to professionals seeking to expand related areas of knowledge. From the authors' point of view, electronic money is undoubtedly a relevant factor for the development of these systems, which are currently in force but little studied by the academic community.

Peer reviewers

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Introduction

Globalization and the expansion of markets have accelerated the production flows of goods and services throughout the world, modifying the way of life of people, companies and countries. Currently, there is no area of human knowledge that is not related to globalization, permeating all fields of human activity, acquiring a multidimensional character, related to economics, culture, politics, ecology and other areas of knowledge. Globalization is supported by trade flows of capital, information, and knowledge, among others, involving most countries and their inhabitants. It also implies a greater cultural and economic interaction between peoples, intensified using Information and Communication Technologies (ICT), which put at risk people with less knowledge and skills in their use, including in the financial and resource management aspects. Within the technologies with applications to the financial area we find those used for operations and tools for means of payment, electronic money, security and identification of people, and others as complex as *big data*. This has increased the need for people, from an early age, to develop the knowledge, attitudes and skills that allow them to generate their welfare in this environment.

Additionally, the global risks of indebtedness and the adversities due to technological advances promote Financial Literacy to a greater extent. This was born as just the financial education given to the elderly so that they can maintain and manage their pensions adequately. However, financial changes have promoted what today is known as Financial Literacy. Nowadays, it is not only enough to have arithmetic knowledge to achieve an adequate management of resources, but it is necessary to develop knowledge and skills to achieve financial wellbeing.

The complex, dynamic and multidimensional nature of Financial Literacy makes its analysis multi-criteria. In this sense, the present material has been elaborated based on the bibliographic review of 58 articles collected from the year 2014 to date, allowing it to be an ideal reading material for academics and those who incur in this world.

Financial Literacy Characterization

Initially, in the search for greater benefits for pensioners, what is known as financial education began to be taught in libraries. Subsequently, the development of skills in the economic context, not only of arithmetic but also of a technological nature, the term financial literacy began to be used. Its complex, dynamic and multidimensional nature makes its analysis multi-criteria, as reported by different authors in the literature, which increases the interest in its research.

Currently, in the quest to achieve the Sustainable Development Goals (SDGs) established in the 2015 Paris Agreement, and to increase social inclusion, including financial access to products and services offered by banking institutions, they are promoting Financial Literacy. The SDGs are a guide for defining priorities at all levels to achieve sustainable development. For this, knowledge and skills on how to manage investments and savings, among other aspects, are indispensable, making it a crucial element for the achievement of these goals.

The following is the bibliographic review of articles in only Scopus journals published from 2014. Scopus is Elsevier's reference database. The articles referred to in the present material have been located with the ScienDirect search engine. These have been selected in relation to the fact that they included the term Financial Literacy as a descriptor in their keywords. They reveal important aspects to be considered not only in the current state of knowledge, but also in future lines of research. This chapter includes the terms that these authors have used to relate Financial Literacy and its JEL classification.

From financial education to financial literacy

Education can be conceived by. (Moreno, 2017) :

- a) A consumer good of utility for individuals, without the need to have an impact on their productivity.
- b) A means to increase and develop skills and abilities.

c) Finally, as a means to increase human capital.

In this sense, education contributes to the development of each human being and, but through which, it is possible to access higher levels of income and wages. In addition, from a social and community point of view, it is conceived as a lever to guarantee development (Raccamello, Carrillo, & Guzmán, 2017).. In this sense, it is considered that there is a close relationship between education and the individual's income levels and that it includes benefits for future generations.

The way it was conceived, financial education sought to develop the ability to understand the basic concepts of personal finance and money management on a daily basis. Its importance has been recognized in developed and emerging countries, which has led to the implementation of different policies and strategies by countries and banking institutions. In addition, it promotes an adequate financial culture and, finally, making the right decisions to manage the family and personal economy, among other benefits. Among these, reducing the probability of incurring in inadequate debts or unnecessary expenses.

Initially, financial education was aimed at users children, adolescents and older adults (Raccamello, Carrillo, & Guzmán, 2017).mostly. However, its evaluation, measurement and inclusion of banking institutions brings with it what is later known as financial literacy. Additionally, this brings benefits such as collaboration, incorporation of new stakeholders, identification of leaders and program evaluation.

Within this framework, the Organization for Economic Cooperation and Development (OECD) in 2008 proposed guidelines to implement financial education at an early age, in pre-adolescence, that would allow them to identify their potential and the importance it plays during their lives. This is included, in the context of educating for life, during the course of a human being's life, in the different stages of childhood, university, marriage, when acquiring a mortgage and others, which makes financial literacy at an early age indispensable.

According to OECD (2010), the dimensions of financial education are:

- Financial knowledge or culture: it could be defined as the knowledge that the person or entrepreneur has in a way that allows him/her to understand the information related to personal or company finances. For its measurement, it is considered the knowledge of law and about money and inflation, calculation of interest rate, risk and inflation and, finally, the use of technologies for money management.
- Financial behavior: According to (Duarte, Rosado, & Basulto, 2014) financial behavior, are the actions related to decision making performed by people according to their reasoning patterns. This is measured in terms of money care, difficulties to cover expenses, hedging strategies, hedging against the loss of the main source of income and, finally, saving modalities. Its lack, in addition to stress and anxiety, brings problems such as lack of savings for retirement, lack of knowledge of retirement plans, conflict in marriages due to financial problems, poor management of credit cards and others. According to (Avedaño, Rueda, & Velasco, 2021) financial literacy is related to the apprehension, understanding and proper interpretation of the essential concepts related to finance in the framework of its products, institutions, terminology, techniques and procedures, among others. Likewise, this is not only limited to the understanding of concepts, but also includes the ability to transfer such ideas and abstractions to specific contexts. Therefore, it is important that financial education programs be permanent and directed towards training that makes meaningful learning possible. That is to say, the construction of complex mental structures integrated by ideas and concepts that are related and articulated with each other.
- Financial attitudes: in general terms, it refers to people's approach to financial management and their beliefs about their knowledge of financial practices. It is measured in relation to knowledge of financial products, trends in financial

products, recent choice of financial products and advice on the choice of these products.

- Financial awareness: ability to understand and assume the reality for making decisions regarding money and that its use has a positive impact, thus achieving an impact on the environment and the development of society. This is measured in terms of responsibility for daily spending, budgeting, budget monitoring in the use of money and family income and, finally, the ability to save.

Given the importance of financial education, it should be imparted at any age, since it is a continuous process throughout their lives, where it is recommended to start from an early institutional age (Villada, López-Lezama, & Muñoz-Gaelano, 2017)...

Most developed countries have implemented various strategies where the deficient financial education of individuals is clear. This is how the European Commission announced financial education as an essential component of its work to ensure that the single market can bring direct benefits to its citizens, especially empowering them not only to seek the best services and to understand some essential basic concepts of personal finance. In addition, there are measures in emerging countries, one of them is Colombia, where the Ministry of Education supported by the banking association of the same country, developed a plan to promote financial education from school with the purpose of developing in children, adolescents, and young people the knowledge, skills and attitudes necessary to make daily financial decisions. In accordance with the regulations in force in the country, each educational institution must define the way to articulate financial education in its institutional educational project. (Villada, López-Lezama, & Muñoz-Gaelano, 2017)..

In general, the contents included are money and transactions, financial planning and management, risk and return, and financial overview. The processes are: identifying financial information, analyzing information in a financial context, assessing financial

issues, applying financial knowledge and understanding, and finally, the contexts are: education and work, home and family, personal and social.

Conceptualization Financial Literacy

The 20th century saw the beginning of financial literacy education for adults when libraries started to get involved in their literacy. These institutions have always been at the forefront of different literacy methods, with this education first appearing in the 1990s. However, starting in 2002, the term Financial Literacy began to be used for the first time in John Bryant and Michael Levin's 2002 book, *Betting on Financial Literacy for You and Your Children*. (Faulkner, 2015). The most basic definition states that it is the ability of individuals to manage their financial resources. (Halilovic, Zaimovic, Arnaut, & Zaimovic, 2019). However, it goes beyond that and actually refers to people's skills and attitudes. (Rai, Dus, & Yadav, 2019), (Swiecka, Yeşilda, Özen, & Grima, 2020), (Kadoya & Rahim, 2020) which enables them to make informed decisions to achieve their financial well-being. (Agyei, Adam, & Agyemang, 2019), (Abad-Segura & Gonzalez-Zamar, 2019), (Nitio, Clichici, & Ciocirlan, 2021).

Among the skills needed to achieve Financial Literacy are numeracy, risk, microfinance (Candiya, Mpeera, Munene, & Nkote, 2016) and financial management (Nguyen, Hai, Ngoc, Hai, & Thanh, 2022) and technology, among others. Initially, it was aimed at individuals or family groups, but nowadays, given the demand for banking products and services in a globalized world, it also includes entrepreneurs and small and medium-sized enterprises (SMEs). (Anshika, Singla, & Mallik, 2021) (Abiodun & Entebang, 2017), (Kwadwo, Asantewa, & Otuko, 2020), (Agyei, Adam, & Agyemang, 2019), (Kulathunga, Ye, Sharma, & Weerathunga, 2020).

According to (Halilovic, Zaimovic, Arnaut, & Zaimovic, 2019), Financial Literacy includes five (5) categories:

- a) Knowledge of financial concepts.
- b) Ability to communicate financial concepts.

- c) Attitude to personal finance management.
- d) Consider appropriate risk in making financial decisions.
- e) Confidence in effective planning for future financial needs.

The Economic Development Organization (OECD) and its International Network for Financial Education (INFE) define Financial Literacy as the awareness, knowledge, skill, attitude and behavior necessary to make sound financial decisions and ultimately achieve individual financial wellbeing (INFE, 2011) as shown in Figure 1.

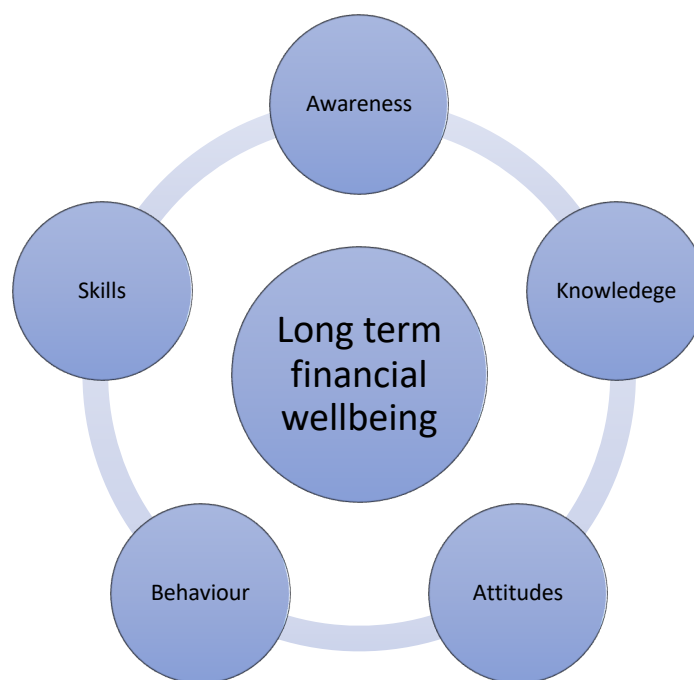


Figure 1. Financial Literacy Factors according to the (INFE, 2011)

As mentioned above, the multi-criteria analysis of Financial Literacy makes it a complex term to consider. Within this framework, there are several works published on the bibliometric impact, obtained through reviews, on its aspects. As an example of this, Table 1 shows those collected and which have served as the basis for this material. In these, Financial Literacy is related to age (dedicated to young people or older adults), gender, entrepreneurship or SMEs, forms of legislation of regions or countries, methods of analysis and others.

Table 1. *Bibliometric impact articles from the review of articles on Bibliometric Literacy.*

Year	Authors	Title (Free translation by the author)	Number of review articles	Period
2014	Totenhagen, Casper, Faber, Bosch, Wiggs and Borden	Youth financial literacy: a review of consumer delivery considerations and methods.	445	2002 to 2012
2015	Faulkner	A systemic review of Financial Literacy as a concept called: more questions than answers.	52	2002 to 2014
2017	Amagir, Groot, van den Brink and Wilschut	A review of financial literacy programs for children and adolescents.	Does not indicate	
2019	Abad-Segura and Gonzalez-Zamar	Effects of financial education and financial literacy on creative entrepreneurship: a global investigation.	1539	2004 to 2015
2020	Goyal and Kumar	Financial literacy: a systemic review and bibliometric analysis.	502	2000 to 2019
2021	Ouachani, Tunisia, Belhassine and Kammoun	Measuring financial literacy: a review of the literature.		

Bibliographic reviews are essential in academic work, starting from a collection of articles on the topic related to the research. Some of its functions are: to leave a record of the material collected for reading, to reveal possible new research and, finally, to serve as raw material to elaborate a synthesis, which serves several of the regular readers of the scientific community.

Since its inception, Financial Literacy has been related to financial education. Additionally, it is related to other terms, which have been collected based on the

keywords of the 58 articles used for the present review, from the period 2014 to date, which are conceptualized below, ordered alphabetically:

- *Financial administration*: discipline responsible for planning, organizing, and controlling the financial resources of companies. It is responsible for making decisions on investments, savings, financing and budgets, among others. (Kumar, Pillai, Kumar, & Tabash, 2022)
- *Financial access (access to finance)*: access to financial services such as microcredit, credit, savings, insurance, electronic payments, and others. (Ye & Kulathunga, 2019).
- *Financial attitude*: Within the OECD (2011), it is one of the components with which the Financial Literacy of individuals can be measured, related to their intention to (Rai, Dus, & Yadav, 2019). However, the multidimensional nature of this Literacy makes it necessary to include other components. (Sekita, Kakkar, & Ogaki, 2022)..
- *Financial risk attitude*: Risk is related to the actions that people dare to take, for which they develop tolerance levels to face, from a financial point of view, uncertain decisions that could affect them (Hermansson & Jonsson, 2022).
- *Digital financial literacy*: This is a multidimensional concept, which does not yet have a standardized definition. With four dimensions of digital financial literacy, including knowledge of digital financial products and services, awareness of digital financial risks, knowledge of digital financial risk control, knowledge of consumer rights, and redress procedures (Morgan & Long, Financial Literacy, Financial Inclusion, and Savings Behavior in Laos, 2020)..

- *Financial autonomy*: Levels of financial autonomy are conditional on various factors. In general, it refers to the guarantee of meeting the financial needs and objectives proposed.
- *Financial well-being*: This term (along with financial health) is relatively recent. It refers to the ability to make decisions that result in medium- and long-term financial security. (Agyei, Adam, & Agyemang, 2019), (Abad-Segura & Gonzalez-Zamar, 2019), (Nitio, Clichici, & Ciocirlan, 2021). In addition, according to the Consumer Financial Protection Bureau (CFPB), it relates to the ability to meet one's obligations in a satisfactory manner, for which a scale has been established. (CFPB, 2022)
- *Financial capability*: Ability to make investments in order to achieve planned financial objectives. (Kamur, Pillia, Kumar, & Tabash, 2022).
- *Financial behavior*: Actions in accordance with reasoning patterns including their decision making based on emotions (Rai, Dus, & Yadav, 2019), (Kadoya & Rahim, 2020), (Morgan & Long, Financial Literacy, Financial Inclusion, and Savings Behavior in Laos, 2020), (Cupa & Fessler, 2021), (Muñoz-Céspedes, Ibar-Alonso, & de Lorenzo, 2021) (Nitio, Clichici, & Ciocirlan, 2021).
- *Financial knowledge*: Degree of understanding of financial concepts and application of decision-making skills in economic environments that impact resource management. (Rai, Dus, & Yadav, 2019), (Swiecka, Yeşilda, Özen, & Grima, 2020), (Goyal & Kumar, 2020), (Kadoya & Rahim, 2020), (Nitio, Clichici, & Ciocirlan, 2021), (Amagir, van den Brink, & Wilschut, 2022), (Cossa, Madaleno, & Mota, 2022), (Lin & Bates, 2022) (Martins, Madaleno, & Ferreira, 2022).

- Financial decisions: The decisions that companies must make regarding what proportion of equity and debt they should have in their capital structure. (Cossa, Madaleno, & Mota, 2022).
- Financial development (financial development): a tool in which employers can use to help employees improve their job performance and achieve their professional goals with external stimuli. In this framework, individual development plans and their actions are effective when employees and team leaders collaborate honestly in specific ways that benefit the employee, manager, and team and, ultimately, the company as a whole (Grohmann, Klühs, & Menkhoff, 2018).
- Money: An asset or good that is accepted as a means to carry out collection and payment transactions.
- *Financial education*: The process by which people acquire a set of knowledge, habits and customs to manage, safeguard and protect their wealth at different stages of their lives. (Totenhagen, et al., 2014), (Abad-Segura & González-Zamar, 2019), (Goyal & Kumar, 2020), (Kammoun, 2021), (Gallego-Losada & Montero-Navarro, 2022). Its purpose is to lay the foundations for a better understanding of financial matters and to introduce them to the financial world. (Amagir, van den Brink, & Wilschut, 2018).
- Economic education (*education economic*): Articulation of efforts that institutions from various sectors carry out in this field. (Lin & Bates, 2022).
- Indebtedness: Obligation of an individual or legal entity to meet its payment commitments and to carry out transactions.
- Financial exclusion (*financial exclusion*): in general terms, it is the exclusion from financial services. (Candiya, Mpeera, Munene, & Nkote, 2016)..

- Financial: it is connected to the economic wellbeing of individuals and to a set of phenomena of global interest such as pensions, unemployment, health and housing, among others. To that extent, it is interpreted as a key tool for social inclusion and the achievement of equity, as well as the liquidity and stability of financial markets. (Avedaño, Rueda, & Velasco, 2021)..
- Household finance: Household financial decisions are complex, interdependent and heterogeneous, and fundamental to the functioning of the financial system. (Janssens, et al., 2021) (Guiso & Sodini, 2013) (Madeira, 2021).
- Personal finance: application of the principles of finance in the management of an individual's or a family's resources.
- *Financial management*: Management of an individual's financial and economic resources. (Nguyen, Hai, Ngoc, Hai, & Thanh, 2022). On the other hand, financial management in organizations refers to the activity that is performed in an organization and that is responsible for planning, organizing, directing, controlling, monitoring and coordinating the entire management of financial resources in order to generate greater benefits and / or results. The objective is to make the organization perform effectively, support the best financial decision making and generate investment opportunities. (Terraza, 2009).
- Financial abilities: refers to the person's abilities to explore and use financial information to manage decisions and actions. In other words, it can be interpreted as the articulation between financial knowledge and the development of tasks on financial information, a scenario from which problems are answered, situations are analyzed and decisions are made. Financial skills are varied: data analysis, goal setting, strategy definition, problem solving, planning and control, among others. (Avedaño, Rueda, & Velasco, 2021).

- Financial *inclusion*: Access to financial goods and services through adequate regulation to all segments of the population. It is a multidimensional variable since it depends on various factors of supply and demand of financial services for individuals, families or companies. (Candiya, Mpeera, Munene, & Nkote, 2016), (Koomson, Villano, & Hadley, 2019). According to (Avedaño, Rueda, & Velasco, 2021) According to the authors, it makes it possible to achieve greater welfare when users are aware of financial products and services. They maintain that at an international level, financial education is a tool to face social exclusion and promote development, and indicate that they complement each other, allowing citizens to be aware of the risks of over-indebtedness and the lack of medium and long-term financial planning.
- Financial institution (Financial institutions): For-profit company whose purpose is to provide financial products and services to the different economic agents of society. (Khawar & Sarwar, 2021).
- Microfinance (*microfinance*): are the financial services that enable low-income and low-income people to finance their habitat (Candiya, Mpeera, Munene, & Nkote, 2016)..
- Financial *regulation*: Standardization of financial institutions in order to promote resource allocation and capital accumulation while maintaining their safety and soundness. (Nguyen, Hai, Ngoc, Hai, & Thanh, 2022).
- Financial technology (fintech): the use of software, applications and digital platforms to provide financial services to consumers and businesses through digital devices such as smartphones. It has become a promising tool to promote financial inclusion, i.e., access for excluded households and small businesses to financial services. (Morgan, Huang, & Trinh, The Need to Promote Digital Financial Literacy for the Digital Age , 2019).

- Financial fragility: term related to the level of indebtedness relative to exports in foreign currency. (Chhatwani, 2021) (WEF, 2022).
- Financial socialization (Financial socialization): the process of learning and advancing values, knowledge, norms, attitudes, and behaviors that promote financial viability and individual wellbeing (Brown, Henchoz, & Spycher, 2018).
- Payment methods: system that is used to pay money and depends on each country (Fujiki, 2019). (Fong, Koh, & Mitchell, 2021). These include: cash, debit, credit, prepaid, prepaid and commercial cards, checks, bank transfers, direct debit, drafts and cash on delivery. In electronic media there are: virtual currencies (cryptocurrencies), virtual wallets, virtual cards and, finally, cell phone payments. Finally, there are advanced technologies such as NFC (*contactless*), facial recognition and QR codes.

According to OECD/INFE and G20 leaders (2013), financial literacy can be measured through:

- a) National surveys
- b) International Research
- c) Expert advice

For the first time, in 2010, national surveys were applied to measure the level of financial literacy and inclusion. Subsequently, in 2015, 40 countries around the world participated in international surveys to measure this level in adults. This is done with the purpose of performing the measurement in one country and making a comparison between countries (OECD/CVM, 2018), including methodological guidance in a kit. In a general way:

- 1) The survey was applicable to adults between 18 and 79 years of age.

- 2) Preferably, interviews were conducted by telephone or in person. However, in countries with high levels of literacy, interviews could be conducted via the Internet.
- 3) As a sample, a minimum of 1,000 people should be included, including key data on sex and age.
- 4) Others related to increasing the sample size, depending on other variables of interest to the country to be analyzed.

Among the results of the study, 66% own a credit product and 83% indicated that they knew of more than five financial products. Nineteen percent use their family to apply for a loan. In addition, only 48% of the adults reached minimum knowledge levels and that, although most people understand the concept of interest, they do not calculate it correctly, which represents a limit when it comes to making good decisions, among other aspects.

According to (Anderson, Peña, & López, 2020) the main limitations presented by the respondents is the bias that derives from the information that individuals declare, mainly when they collect information on income levels.

Finally, the results of the surveys can contribute to the design of policies focused on promoting financial literacy, in addition to allowing the evaluation of their progress and how they can be materialized in the quality of life of the population in the medium and long term, among other aspects.

JEL classification of articles

Since 1991, articles in economic journals are classified according to the code used by the *Journal Economic Literature* (JEL). Each author classifies his or her article according to the category he or she considers to be his or her article. Figure 2 shows the categories in which the 58 articles used to prepare this material have been included. This Figure shows the variety of descriptors used for the topic of Financial

Literacy, which demonstrates the complexity of its study and some of the areas of knowledge involved.

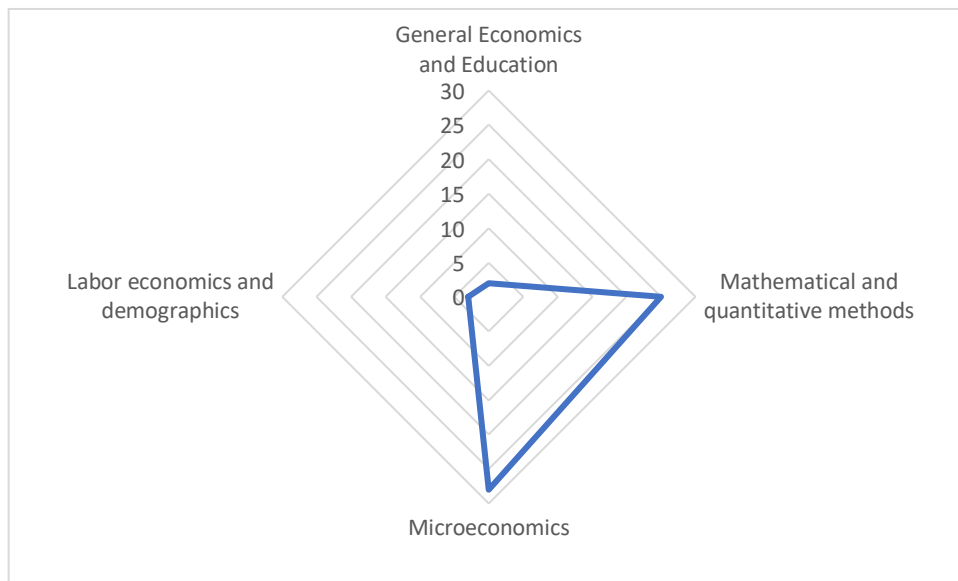


Figure 2. Article descriptors according to JEL classification

As can be seen, Financial Literacy goes beyond knowledge alone, it includes other attitudes, skills and abilities that enable sound decision making that will ensure long-term financial well-being.

According to the various authors of the articles consulted, from the point of view of knowledge, Financial Literacy is largely included in the categories of microeconomics and financial economics. However, some authors additionally highlight its inclusion in the areas of:

- a. General Economics and Education
- b. Mathematical and quantitative methods
- c. Macroeconomics and monetary economics
- d. Health, education and welfare
- e. Labor economics and demographics
- f. In other economic aspects

This shows that there is no consensus on the categorization of Financial Literacy to be included in economic journals, due to its nature.

Edges of Financial Literacy

The importance of financial literacy is based on knowledge, skills and attitudes that enable informed decision making and, therefore, greater benefits and well-being. For example, this knowledge allows understanding the relevance of savings, good credit management, saving for retirement, the effect of inflation and risk management in financial transactions. In addition, greater participation of the population in various products and services offered by financial institutions, which translates into higher levels of inclusion, thus reducing social gaps.

The complex, dynamic and multidimensional nature of Financial Literacy makes its analysis multi-criteria, as reported by different authors in the literature. This is because it has different edges that affect the achievement of its objectives. Figure 3 shows some of its edges, in which we can see that they are related to the individual, his or her environment, the policies and regulations of the countries, access to banking services and even global aspects.



Figure 3. Financial Literacy Edges

As can be seen in Figure 3, there are factors intrinsic to individuals (age, level of financial knowledge and training, gender, skills and attitudes, among others), to their environment (public policies, regulations, banking institutions and access to financial products and services, among others) and to the global environment (such as competitiveness and economic crises, among others), as shown in Figure 4.

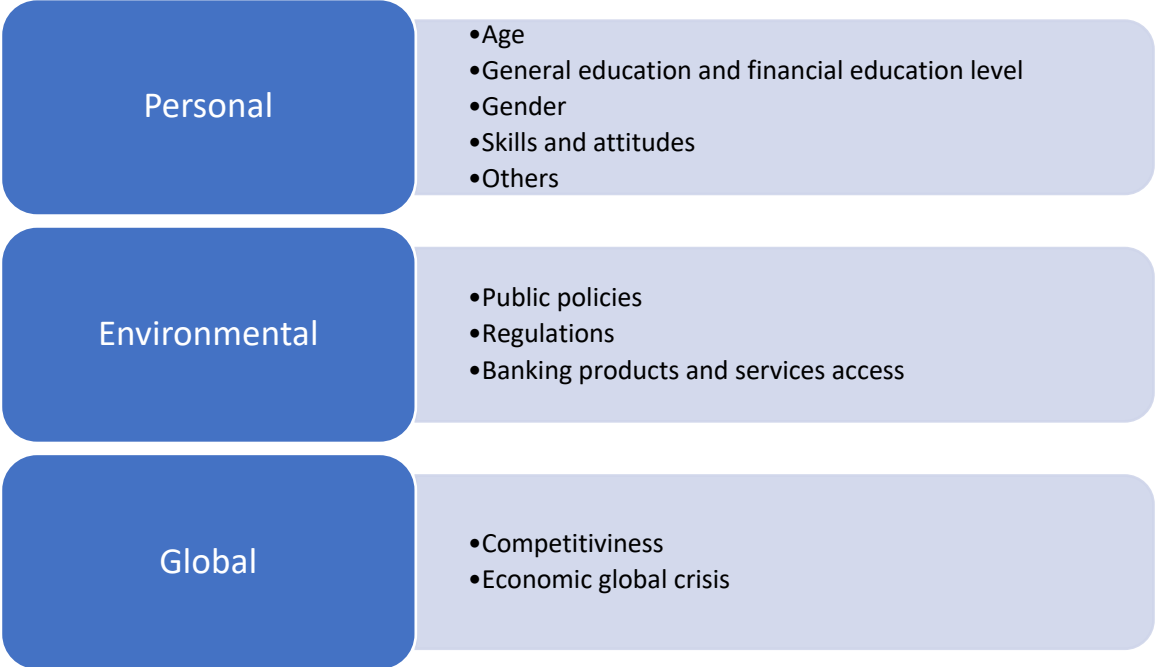


Figure 4. Factors affecting financial literacy

Country household economic and financial data for 2022

Globalization brings significant progress in terms of indicators that can be used to assess the competitiveness of countries and, in this way, attract foreign investment. Within this framework, The Global FINDEX database (CEIC, 2022) publishes economic, industrial and financial data, mainly from emerging economies classified into: national accounts, construction and property, household surveys and domestic trade, balance of payments, interest rates and foreign exchange, economic and business surveys, production, government and public finance, inflation, monetary, energy, financial markets, demographics and labor market, foreign trade, banking statistics, tourism and, finally, transport and telecommunications.

Within the household survey and domestic trade and monetary indicators, those that can be used to reveal information related to the country's attitudes towards the finances of its citizens stand out, although the initial purpose of these studies is not related to reflecting financial literacy.

Household survey and domestic trade indicators include household expenditures per capita and household income per capita, which are shown in Tables 2 and 3, respectively. In addition, the monetary ones include financial data household debt as a function of %GDP, non-performing loans ratio, no loans, household debt ratio, household credit, household debt and, finally, loan growth, which are shown in Tables 4 to 12, respectively.

Table 2. *Household spending in countries or regions of the world. Source (CEIC, 2022)*

Country/region	Household spending (USD)	Frequency	Range
Australia	27.595	Annual	2004-2016
Brazil	5.769	Annual	2002-2017
China	4.698	Annual	1957-2021
Germany	18.766	Annual	1998-2018
Greece	9.104	Annual	2008-2020
India	573	Annual	1973-2012
Indonesia	1.060	Annual	2000-2021
Italy	15.016	Annual	2011-2029
Japan	10.404	Annual	2000-2021
Malaysia	3.393	Annual	2005-2019
Russia	5.216	Annual	2000-2019

United Kingdom	14.595	Annual	2000-2021
United States	27.886	Annual	2006-2021

Legend: Blue indicates rising and red indicates falling.

Table 3. *Per capita household income of countries or regions of the world. Source (CEIC, 2022)*

Country/region	Per capita household income (USD)	Frequency	Range
Australia	30.906	Annual	2004-2016
Brazil	4.777	Annual	2002-2017
China	4.805	Annual	1957-2021
France	27.119	Annual	1957-2021
Germany	33.643	Annual	1998-2018
Italy	15.321	Annual	2011-2029
Japan	20.128	Annual	2000-2021
Malaysia	5.131	Annual	2005-2019
Russia	6.523	Annual	2000-2019
United Kingdom	35.231	Annual	2000-2021
United States	36.430	Annual	2006-2021

Legend: Blue indicates rising and red indicates falling.

Table 4. Household debt (%GDP) of countries or regions of the world. Source (CEIC, 2022)

Country/region	Last (%)	Frequency	Range
Australia	123.2	Quarterly	June 1988- June 2022
Bolivia	11.2	Quarterly	September 2010 - June 2022
Canada	104.3	Quarterly	March 1969 - June 2022
Porcelain	62.4	Quarterly	March 2007 - September 2022
European Union	51.1	Quarterly	September 2007 - June 2022
France	74.3	Annual	1955 - 2021
Germany	55.8	Quarterly	December 1991 - June 2022
Greece	57.6	Quarterly	December 1997 - June 2022
India	14.1	Annual	1998-2022
Indonesia	9.4	Quarterly	December 2010-September 2022
Italy	54.9	Quarterly	December 1995 - June 2022
Japan	68.6	Quarterly	December 1997 - June 2022
Malaysia	89.1	Annual	2002-2021
Russia	18.9	Quarterly	December 2000 - June 2022
Singapore	64.9	Quarterly	March 1995 - June 2022
United Kingdom	89.96	Quarterly	March 1995 - June 2022
United States	66.1	Quarterly	March 1987 - June 2022

Legend: Blue indicates rising and red indicates falling.

Non-performing loans ratio of countries or regions of the world. Source (CEIC, 2022)

Country/region	Non-performing loans ratio	Frequency	Range
Australia	0.9	Quarterly	June 1988- June 2022
Bolivia	2.1	Quarterly	September 2010 - June 2022
Brazil	2.8	Monthly	August 2014-September 2022
Canada	0.3	Quarterly	March 1969 - June 2022
Porcelain	1.7	Quarterly	March 2007 - September 2022
European Union	3.7	Quarterly	September 2007 - June 2022
France	2.7	Annual	1955 - 2021
Germany	1.1	Quarterly	December 1991 - June 2022
Greece	31.9	Quarterly	December 1997 - June 2022
India	7.3	Annual	1998-2022
Indonesia	2.9	Quarterly	December 2010-September 2022
Italy	3.5	Quarterly	December 1995 - June 2022
Japan	1.2	Quarterly	December 1997 - June 2022
Malaysia	1.8	Annual	2002-2021
Russia	16.8	Quarterly	December 2000 - June 2022

Singapore	1.3	Quarterly	March 1995 - June 2022
United Kingdom	1.0	Quarterly	March 1995 - June 2022
United States	1.2	Quarterly	March 1987 - June 2022

Legend: Blue indicates rising and red indicates falling.

Table 6. *Non-borrowing from countries or regions of the world. Source (CEIC, 2022)*

Country/region	No loan (USD mm)	Frequency	Range
Australia	22.900	Quarterly	June 1988- June 2022
Brazil	21.410	Quarterly	September 2010 - June 2022
China	441.007	Quarterly	March 1969 - June 2022
Greece	20.840	Quarterly	December 1997 - June 2022
India	114	Annual	1998-2022
Indonesia	11.896	Quarterly	December 2010-September 2022
Italy	70.981	Quarterly	December 1995 - June 2022
Japan	71.621	Quarterly	December 1997 - June 2022
Malaysia	7.851	Annual	2002-2021
Singapore	9.947	Quarterly	March 1995 - June 2022
United States	130.970	Quarterly	March 1987 - June 2022

Legend: Blue indicates rising and red indicates falling.

Debt service ratio in households in countries or regions of the world. Source (CEIC, 2022)

Country/region	Household debt service ratio (USD)	Frequency	Range
Australia	13.400	Quarterly	March 1999 - March 2022
Canada	12.700	Quarterly	March 1999 - March 2022
France	6.600	Quarterly	March 1999 - March 2022
Germany	6.200	Quarterly	March 1999 - March 2022
Italy	4.300	Quarterly	March 1999 - March 2022
Japan	7.200	Quarterly	March 1999 - March 2022
United Kingdom	8.500	Quarterly	March 1999 - March 2022
United States	7.500	Quarterly	March 1999 - March 2022

Legend: Blue indicates rising and red indicates falling.

Table 8. Household credits of countries or regions of the world. Source (CEIC, 2022)

Country/region	Household loans (USD mm)	Frequency	Range
Australia	1.973	Quarterly	June 1988- June 2022
Brazil	633	Quarterly	August 2014-September 2022
Canada	2.169	Quarterly	March 1969 - June 2022
China	11.291	Quarterly	March 2006 - March 2006
France	1.866	Quarterly	1955 - 2021
Germany	2.286	Quarterly	December 1991 - June 2022
Greece		Quarterly	December 1997 - June 2022
India	1.147	Quarterly	1998-2022
Indonesia	205	Quarterly	December 2010-September 2022
Italy	864	Quarterly	December 1995 - June 2022
Japan	3.063	Quarterly	December 1997 - June 2022
Malaysia	271	Quarterly	2002-2021
Russia	354	Quarterly	December 2000 - June 2022
Singapore	230	Quarterly	March 1995 - June 2022
United Kingdom	2.246	Quarterly	March 1995 - June 2022
United States	18.213	Quarterly	March 1987 - June 2022

Legend: Blue indicates rising and red indicates falling.

Table 9. Household debt of countries or regions of the world. Source (CEIC, 2022)

Country/region	Household debt (USD mm)	Frequency	Range
Australia	1.953	Quarterly	June 1988- June 2022
Bolivia	4.786	Quarterly	September 2010 - June 2022
Canada	2.165	Quarterly	March 1969 - June 2022
China	10.198		
European Union	6.858	Quarterly	September 2007 - June 2022
France	2.037	Annual	1955 - 2021
Germany	2.188	Quarterly	December 1991 - June 2022
Greece	118.966	Quarterly	December 1997 - June 2022
India	392.896	Annual	1998-2022
Indonesia	117.453	Quarterly	December 2010-September 2022
Italy	1.058	Quarterly	December 1995 - June 2022
Japan	2.746	Quarterly	December 1997 - June 2022
Malaysia	329.629	Annual	2002-2021
Russia	485.016	Quarterly	December 2000 - June 2022
Singapore	267.135	Quarterly	March 1995 - June 2022
United Kingdom	2.606	Quarterly	March 1995 - June 2022

United States	16.154	Quarterly	March 1987 - June 2022
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Legend: Blue indicates rising and red indicates falling.

Table 10. Total household loan growth of countries or regions of the world. Source (CEIC, 2022)

Country/region	Total household loan growth (%)	Frequency	Range
Australia	9.62	Monthly	June 1988- June 2022
Bolivia	7.28	Monthly	September 2010 - June 2022
Canada	16.76	Monthly	March 1969 - June 2022
Porcelain	8.91	Monthly	
China	11.08	Monthly	
European Union	7.47	Monthly	September 2007 - June 2022
France	12.32	Monthly	1955 - 2021
Germany	27.71	Monthly	December 1991 - June 2022
Greece	6.12	Monthly	December 1997 - June 2022
India	14.19	Monthly	1998-2022
Indonesia	10.80	Monthly	December 2010-September 2022
Italy	1.39	Monthly	December 1995 - June 2022

Japan	3.55	Monthly	December 1997 - June 2022
Malaysia	6.40	Monthly	2002-2021
Russia	15.63	Monthly	December 2000 - June 2022
Singapore	2.79	Monthly	March 1995 - June 2022
United Kingdom	15.90	Monthly	March 1995 - June 2022
United States	11.60	Monthly	March 1987 - June 2022

Legend: Blue indicates rising and red indicates falling.

As mentioned above, household spending is a financial indicator that should be taken as a reference for financial literacy and, although it cannot be observed in isolation, without considering income, it is important to make some observations on its observance. Table 2 shows this indicator for 13 countries, in a cross-sectional manner for the year 2022. It can be seen that China has been registered since 1957, an important aspect to highlight at this point. Of these countries, household spending ranges from 573 to 27,886 USD, from India and the United States, respectively. There is a significant gap of approximately USD 27,300.

In contrast to expenditures are household incomes, which are included in Table 3 on a per capita basis for 11 countries. It is important to note that the data published in Tables 3 and 4 are the results of surveys and not macroeconomic data for the country. In Table 5 this per capita income ranges from USD 4,777 to USD 36,430 for Brazil and the United States, respectively, with a gap that exceeds USD 32,000.

Among the monetary indicators, Table 5 shows the ratio of non-performing loans for 18 countries. This ratio represents the percentage of loans unpaid for more than three months, overdue balances or where there is some doubt about their repayment.

Among these countries, this ratio varies from 0.3 to 16.8 for Canada and Russia, respectively.

Table 7 shows the debt service ratio of households in eight countries ranging from 4,300 to 13,400 for Italy and Australia, respectively, which must be used annually for interest payments as principal repayment. Table 8 shows the household debt in 16 countries, ranging from 113 to 18,213 for Greece and the United States, respectively. Table 9 shows the household debt of 16 countries, ranging from 1,058 to 392,386 for Italy and Singapore, respectively. Finally, Table 10 shows the growth of total household loans for 17 countries, ranging from 1.39 to 27.71 for Italy and Germany, respectively.

Although only a mention is made here of the evidence and cross-sectional analysis of countries' monetary indicators, these are used by banking and financial institutions to position their investments. It also serves as a point of comparison to understand the economic relationships and monetary policies of countries. Where these policies play an important role in the economic sector. Additional benefits include inflation control, reduction of unemployment, improvements in the balance of payments and greater economic development. This makes explicit the importance of proper financial management of households, enterprises and small businesses and, in this sense, financial education and literacy.

Factors influencing financial literacy

- **Age and financial literacy**

Financial knowledge varies with age. Adults have greater use of financial products than younger people and those over 60 years of age. Additionally, the level of general and financial knowledge has been shown to be another factor in achieving literacy levels.

According to (Halilovic, Zaimovic, Arnaut, & Zaimovic, 2019), there is an interdependence between population savings and financial literacy. Being, the knowledge of pensions a little known predictor to consider the degree of Literacy. In this sense, there is a positive correlation between Literacy and pension behavior of the elderly.

According to (Koomson, Villano, & Hadley, 2019)the education programs aimed at young people are more effective than those aimed at other groups, with no significant impact on older people. Furthermore, according to (Rodriguez-Raga & Martinez-Camelo, 2022)financial education at an early school age (from 6 to 18 years old) is crucial to achieve literacy, compared to adulthood. In their study of 1337 school-age participants, heterogeneous results were obtained between those attending public and private schools, when including an education program. In spite of the heterogeneity of the results, it is demonstrated that the older the age, the higher the level of knowledge acquired, the higher the opportunities to achieve literacy.

According to (Amagir, van den Brink, & Wilschut, 2022)that young people over the age of 18 are currently vulnerable and at financial risk of indebtedness due to their access to student loans and, generally, to the problems that online shopping brings with the use of their smartphones. In their study with 921 students, compared to 813 students not included in the tests, a Financial Literacy program shows that they were able to adequately develop knowledge, attitudes towards money, self-efficacy and financial socialization in this group.

Thus, we can conclude that three (3) life periods can be considered in terms of financial literacy:

- a. School-age children and youth from 6 to 18 years old.
- b. Adults up to 60 years of age
- c. Adults over 60 years old

- **Socioeconomic and cultural level**

The socioeconomic level of a person or household is not a physical characteristic, easily distinguishable. It goes into the integration of different traits that vary according to their country, historical moments and other elements. It is also closely related to the cultural one, which are descriptors included in Financial Literacy (Kadoya & Rahim, 2020) as they are related to attitude, knowledge and behavior. This author also includes in this section the demographic factor.

According to (Kadoya & Rahim, 2020) in Japan, financial literacy is gaining increasing importance as it engages more people in complex financial processes. As this contributes to decision making to achieve their financial health and well-being. Their research shows that education, financial asset balance and information use are positively related to knowledge. However, they additionally note that previous experiences of problems and other factors are negatively related.

According to (Thomasa & Subhashree, 2020) Figure 5 shows that family influence positively impacts Financial Literacy. That is, parents contribute to the level of achieved Literacy of children and youth. Including the cash management they provide that can generate effective financial habits, generating greater confidence in their children. There are also some cases where even older siblings have an impact on the behavior of younger siblings. Including the debate on the role that parents play in the literacy of their children as a social trait. In addition, socialization in schools and colleges also explains the level of Literacy achieved in individuals, as they spend more time with their peers. This aspect becomes crucial, i.e., positive relationships with peers create an atmosphere conducive to financial education and achieving literacy.

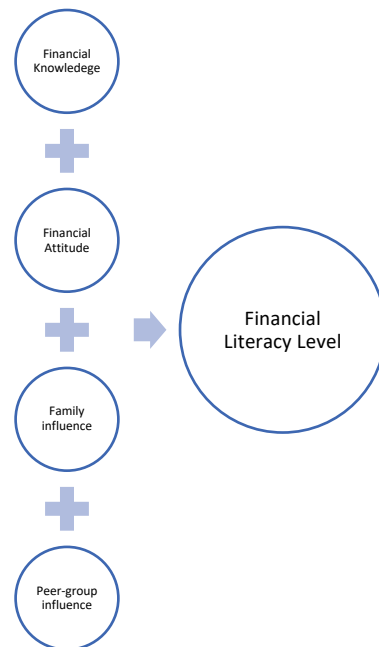


Figure 5. *Factors affecting the Level of Financial Literacy.* Source (Thomasa & Subhashree, 2020)

According to (Rodriguez-Raga & Martinez-Camelo, 2022) the socioeconomic and financial level of the family impacts attitudes and other factors for achieving Financial Literacy, including the level of parental knowledge. In addition, there is a positive relationship between knowledge and financial literacy in Pakistan. (Khawar & Sarwar, 2021) in Pakistan. Furthermore, these authors highlight in their results, the direct relationship between Financial Literacy and parental employment increasing the level of financial socialization of the family which ultimately contributes to their well-being.

- **Gender and race**

Currently, gender gaps persist, despite the equality policies pursued by the SDGs set out in the 2015 Paris Agreement. Generally, in most countries, women use fewer financial products relative to men, perhaps because of the disparity in their education levels. However, among the results of the (Koomson, Villano, & Hadley, 2019).study, they highlight that access to financial products is higher in male-headed households.

Furthermore, effective government policies in this area can help reduce the gender gap that currently exists.

In Chile, according to (Montaña & Ferrada, 2021).the predominance of a higher level of financial literacy among men than among women is evidence of the persistence of the gender gap, perhaps explained by cultural reasons. Additionally, they consider that people's perceived income is another variable to be considered in the levels of financial literacy achieved.

According to (Kadoya & Rahim, 2020) they highlight that gender and age variables have different behaviors and attitudes. Their study concludes, that men perform better in financial literacy, although women outperform them in behavior and attitude. Therefore, considering in a broad perspective, it is not true that women are less literate than the opposite sex.

According to (Cupa & Fessler, 2021)although the sample size is small, the gender gap between Financial Literacy and confidence is explained in the risk tendency. In this framework, the patterns of the environment generate this confidence in the person and this impacts positively on Financial Literacy, reducing the gender gap in asset investments. This represents a crucial path to ensure gender equality in society and greater participation of women in financial markets.

According to (Struckell & Patel, 2022)The study, conducted in Germany, shows that, although men generally have a greater tendency to generate their own employment, financial literacy increases the participation of married women in this type of activity. In addition, although they earn less with this type of employment, compared to men, they choose this type of activity because of the flexibility in obtaining economic resources.

- **People skills and attitudes**

Within Financial Literacy the skills and attitudes of people in terms of putting knowledge into practice are well valued. According to (Skagerlund, Lind, C, Tinghög, & Västfjäll, 2018) According to the study, arithmetic should be one of the cognitive skills that a person should possess. That is, numerical concepts, quantitative estimation, probability and rationalization. These are necessary for arithmetic and interest estimates, knowledge of inflation and, finally, diversification of risks. (Mejia, 2016).

Since Facebook announced in 2019 the use of Libra for its cryptoasset transactions, there has been a concern about the possibility of money laundering, illicit transactions and consumer protection (Fujiki, 2019), including individuals, families and small businesses. Prior to this, centrally, the banking system (in countries such as China, Canada, UK, Japan, USA, Switzerland and Sweden, among others) had been investigating the introduction of digital currency, mainly to store value and not as a medium of exchange in financial transactions. Subsequent to the Pound, academic research and investors begin an escalation for training in the Literacy of cryptoassets, especially Bitcoin. According to the Financial Literacy Survey (FLS) applied in Japan, to 1622 people, among the results stand out, that the most experience they have about cryptoassets they get it from the media. In addition, these forms of payment, generally using mobile cellular technology, are better understood among people under 40 years of age. In this sense, it increases the gap for the inclusion of people being necessary the recommendation of policies to reduce it. As for investors, they could benefit from including this aspect in Financial Literacy to safeguard the value of their investment. However, this same author, in a 2020 publication on the demand for cash for the same country (Fujiki, 2020).

- **Policies and Regulations**

Public policies are considered as the series of actions that the State takes in response to social problems, in such a way that they reflect not only its most important values, but also receive the highest priorities in a given decision.

In Colombia, the Education Law was published in 1994, which included for the first time the importance of economic sciences. However, it was not until 1998 that some recommendations were published indicating that education in finance was not mandatory, based on the autonomy of educational institutions.

Subsequently, the guidelines of the (INFE, 2011) and the (CFPB, 2022) In 2009, Law 1328 was passed, which states that financial consumers have the duty to provide true, updated and timely information to the banking entities that request it. On the other hand, these entities must, under the principle of transparency, provide "true, sufficient and timely information" (article 9) and also "inform, at least, the characteristics of the products or services, the rights and obligations, the conditions, the rates or prices and the way to determine them, the measures for the safe handling of the product or service, the consequences derived from the breach of the contract" (article 9). (GOV.CO, 2009).

With the opening of international markets in Mexico, measures consistent with these changes were adopted through timely and congruent regulation. The first steps corresponded to the reforms of 1995 and 1999, in which the Law of Banco de México was modified to grant the power to grant financial loans to:

- a) Federal Government
- b) Credit institutions
- c) Institute for the Protection of Bank Savings (IPAB)

In this framework, the Credit Institutions Law (LIC, 1990), the Securities Market Law (LMV, 2005) and, finally, the Bank Savings Protection Law (Ley de Protección del

Ahorro Bancario) are promoted. (Rodriguez & Dorantes, Transformations and Perspectives, 2016).. The first period of this legal framework corresponds to the years from 2004 to 2012 and the second one starts from 2014, with the modification of 32 laws and the publication of the Law to Regulate Financial Groupings. The purpose of this framework is to establish the conditions for credit operations, including strategies that promote financial education and financial inclusion.

The Law to Regulate Financial Groupings in 2014, among other purposes, to ensure the "protection of the interests of those who enter into transactions" (Article 1). (Mexico, 2014).

In Chile, the National Strategy for Financial Education (ENEF) was established as a public policy, incorporated for the first time, in the Education Law of 2009, in 2017, with the mission to mobilize and engage public, private and civil society actors for the understanding of financial concepts by citizens. In addition to promoting the development of skills and attitudes that make it possible to increase welfare and, finally, to disseminate the rights that people have in this area. (Montaña & Ferrada, 2021)..

On the other hand, policies and regulations are also aimed at financial education. In Mozambique, regarding financial literacy, they are aimed at introducing content in formal education subjects in the country and introducing lines of research that contribute to generate knowledge to increase financial literacy in the country. (Cossa, Madaleno, & Mota, 2022)..

- **Entrepreneurship and SMEs**

Entrepreneurship seeks to generate value through the expansion of economic activity by exploring new products, processes or merchandise, in the search to satisfy the needs of the population, increasing productivity and generating new jobs,

contributing added value to the economy. The training of entrepreneurs, in all areas, is a priority when it comes to ensuring economic development.

On the other hand, SMEs employ the largest number of workers, even in developed countries. Even in these countries, the number of SMEs greatly exceeds that of large industries, generating significant amounts of financial income.

The sustainable development of enterprises, MSMEs and SMEs depends on their different capitals and physical and financial resources, among others. Among these, the most important is human capital and the dimension that links it to the quality and development of a country is education, therefore, it is the one that requires the most investment. In this framework, the new economies require high skills in their manager-owners so that the organizations have a greater intellectual capital that allows them to be sustainable, this is what is called today the "knowledge economy" and has become a basic asset more valuable than land, labor and capital assets.

Entrepreneurs with greater financial knowledge will have the ability to better manage their businesses for optimal performance, even have fewer financial problems and know how to better address any inconvenience. According to (Romero & Ramirez, 2018). companies owe a chain of financial literacy through the following stages:

- a) Acquisition of the company's financial information, referring to the financial statements as implicit knowledge, to make it explicit.
- b) Storage of information, which will be the basis of knowledge management of the company's culture, financial information and people.
- c) Dissemination of knowledge through means of dissemination, such as newsletters, networks or exchange of experience.
- d) Use of information to meet the basic financial objective of creating wealth, reducing financial costs and risks, and improving the efficiency and effectiveness of investment, profit and working capital reinvestment decisions.

- e) Innovate, putting knowledge into practice and sharing it in the communities.
- f) Measure financial knowledge to determine efficiency, effectiveness and use of knowledge.

Financial literacy has been recognized in both developed and emerging countries, which has led to different financing strategies for entrepreneurs and SMEs. In this framework, the access or inclusion of these organizations to the products and services offered by banking entities limits the informal economy, and increases the revenue of each country's treasury. (Pozuelo, Labatut, & Veres, 2013)..

According to (Abiodun & Entebang, 2017), in Nigeria, Financial Literacy of SME owners impacts on firm performance. Evidencing a positive correlation with the levels of financial education and attitude of the individual and their performance. In addition, the level of financial awareness of owners and managers, which are not a prerequisite, however, this literacy shows a positive impact on management, leadership, networking and marketing.

According to (Kwaku, 2018), in Ghana, shows that Financial Literacy plans to SME owners should be adapted to their needs and, in addition, to cultural beliefs, recommended that religious entities should be the ones to contribute to this training, their role being paramount.

According to (Anshika, Singla, & Mallik, 2021)in India, one of the aspects that impact Financial Literacy in SME owners is their age, general education level and their *raison d'être*. The impact being greater in service enterprises than in manufacturing enterprises. Recommending that a percentage of the company's income be allocated to employee training and that governments, based on public policies, be responsible for the training of entrepreneurs.

According to (Romero & Ramirez, 2018), from the point of view of financial education topics that must be mastered for an adequate managerial role, on the part of owner-managers, which implies a successful performance, are:

- Reading financial statements for decision making.
- Liquidity analysis, leverage analysis and financial indicator analysis.
- Issues related to business continuity, understood as the normal course of operations and the availability of the necessary resources to meet obligations and commitments.
- International Financial Reporting Standards (IFRS). The implementation of the standards represents a new challenge for the owners and managers of SMEs, since they are changing and dynamic schemes, requiring constant updating and training, regardless of the role of the accountant, since the transition to IFRS is mandatory and costly, and requires the adoption of a strategic mindset and greater financial support for the company, aiming at maximizing profits and reducing costs, which will lead to the opening of the doors of national and international markets.
- Techniques to value investment projects such as Net Present Value (NPV), Internal Rate of Return (IRR) and Cost-Benefit Ratio (CBR), which guarantee that decision making is carried out according to theoretical guidelines supported by reliable and real arguments, selected thanks to their ease of applicability and interrelation.

- **Microeconomics**

The traditional microeconomics approach posits that a rational and well-informed individual will make decisions about his savings and consumption, moreover, he will not consume all his income in times of profit and will defray his expenses when his income falls. According to (Lusardi & Mitchell, 2016) According to the microeconomics

approach, these processes can be modeled over the life cycle, depending on consumer preference (e.g., risk aversion and discount rates), economic environment (e.g., risky investment returns and liquidity constraints) and net social security benefits (e.g., the availability and extent of welfare models and social security benefits), among other characteristics.

- **Access to financial products and services**

Among the financial products and services offered by banking institutions are those shown, in general terms, in Table 11.

Table 11. *Products and services of banking institutions*

Products and services	Products and services
Financial investments	General insurance
Life insurance	Microcredits
Pensions	Microinsurance
Mortgages	Savings accounts
Formal credits	Current accounts
Credit cards	Others

As mentioned above, financial inclusion refers to the access of the general population to the products and services listed in Table 2. (Rodríguez-Raga & Riaño, 2016)., studies related to this topic of financial inclusion are found in access, use, quality and wellbeing. Access evaluates the ability to use the products and services offered by banking institutions. Most of the studies focus on credit. Among the results of this

study conducted in Colombia, it is highlighted that education levels increase the probability of this access. However, the review highlights that in the case of emerging markets such as Bangladesh, Malawi, Brazil and rural Peru, where the informal form of credit stands out due to the costs, increasing the informality of the market.

According to (Fong, Koh, & Mitchell, 2021) that there is a need for Literacy in terms of the use and payment of credit cards, as a financial product, since this is the habit most closely linked to people, i.e., accuracy and discipline in terms of payment time.

While these actions favor users of financial products in relation to credit promotion, and, among the highlights, expand information on financial institutions and all their activities and offers. Other activities can be included, for example, rates, commissions, fees, credit limits.

- **Competitiveness and global economic crises**

Competitiveness and the opening of markets incur risk from the financial point of view, due to the greater diversity of goods and services. This forces the business sector to highlight the added values of the goods and services they provide, including those of financial profitability. As mentioned earlier, in Chapter 1, Financial Literacy includes not only knowledge, but also skills and behaviors for making informed decisions, considering risks and, in search of wellbeing (Rodriguez & Venegas, The European fiscal, policy and current economic-financial crisis, 2015)., (Solorza, 2015).

Within the field of competitiveness, the role of Financial Literacy stands out in the development of financial capabilities and development of entrepreneurship and SMEs. (Abiodun & Entebang, 2017), (Kwaku, 2018), (Ye & Kulathunga, 2019) (Kulathunga, Y, Sharma, & .Weerathunga, 2020). Identifying that there is a correlation between Financial Literacy and Internationalization, due to the relationship between knowledge, competitiveness and innovation.

However, global economic crises, such as COVID-19 due to SARS-CoV-2 detected in the city of Wuhan, China, limited economic activity and contracted the GDP of the various economies of the countries during this period. It then spread rapidly to other cities in that country and to the regions of Asia, Europe, Africa, North America and, subsequently, Latin America. On March 11, 2020, the World Health Organization (WHO) officially declared it a pandemic. Its rapid spread led to the congestion of health systems and the introduction of restrictions on individuals in order to slow down the rate of infection and death.

The global COVID-19 crisis was also recently not only a global crisis, but also an individual one, because people are more financially vulnerable, less risk tolerant and unprepared to withstand such a crisis, which lasted for a long period of time. As a result, people became more fragile and reduced their ability to cope with large expenditures, becoming negative in their expectations.... (Chhatwani, 2021).

- **Other factors**

According to (Lusardi & Mitchell, 2016), there are other factors, empirical realities, across countries, that impact financial literacy, new, such as:

- Varies with type of employment and income
- Demographics, such as living in rural areas as compared to those living in urban sites
- The way of acquiring it is easier in relation to other peers, compared to the workplace or in the community
- There is a significant difference between countries or by family history
- Parental and parent education
- Foreigners have lower literacy levels compared to natives.
- Religion and political options

Financial literacy surveys

In the specialized literature there are models to measure, in a detailed or simplified way, the levels of financial literacy. As an example, (Montaña & Ferrada, 2021). the relationship with these indicators:

- a) Financial performance
- b) Knowledge of economic and financial concepts.
- c) Knowledge of financial products and services.

CAF, Development Bank of Latin America, has been measuring financial capabilities since 2013 (CAF, 2013) in eight countries in the region. (CAF, Visiones ¿Cómo están la inclusión y educación financiera en América Latina, 2020) since 2013 has measured financial capabilities (CAF, 2013) in eight countries in the region during these years:

1. Argentina in 2017
2. Bolivia in 2013
3. Brazil in 2020
4. Chile in 2016
5. Colombia in 2013 and 2019
6. Ecuador in 2013 and 2020
7. Paraguay in 2017
8. Peru in 2013 and 2019

As can be seen, the most recent surveys applied in Brazil, Colombia, Ecuador and Peru include among their results that 61% of people do not save. Those who do save do so informally, keeping cash at home. Among these, Brazil stands out, with a savings percentage of 72%.

Among these four countries, 57% are not able to cover an unforeseen expense equivalent to their monthly income. In addition, three out of every five people do not have a defined savings goal. Among those who do, their goal is related to the

purchase of a home. The main action to achieve this goal is to cut expenses. Finally, in Ecuador, the search for additional sources of financing.

On average, 62% of those surveyed in the four countries say that their income is not enough to make ends meet. Furthermore, when comparing the results of this survey in Colombia and Peru with the results of 2013, it can be seen that this percentage of people has decreased.

As far as retirement plans are concerned, the survey results show that Brazil is the country that has them, as well as people who are sure they have them. Thirty-four percent, 25 percent, 31 percent and 32 percent of Brazilians, Peruvians, Ecuadorians and Colombians, respectively, are confident in their retirement plans.

With respect to financial vulnerability, related to the percentage of people who could cover their expenses for six months or more without borrowing is higher in 2013, compared to the last year of measurement.

The trend in financial products is led by savings accounts (with the highest percentage in Brazil, 56%), followed by credit cards (with the highest percentage in Brazil, 32%). Similarly, credit card purchases and payment of services with cell phones or computers are more frequent in Brazil. However, the receipt of remittances is frequent in all four countries.

In terms of financial literacy levels, only one in two Colombians and Peruvians are aware that money loses value with inflation. In contrast to the other two countries, the proportion is reduced to one in three. In addition, as a result, the low proportion of responses related to simple interest rate calculation is also demonstrated.

To conclude, it is shown that the survey results have the purpose of making a longitudinal and transversal trend line that allows identifying people's skills, attitudes and behaviors in relation to financial issues. Since these are demand surveys, the

results are useful for the design of national financial inclusion policies and strategies that consider the different segments of the population.

As an example, Table 13 shows the questions from QF1 to QF5 of the questionnaire to measure the degree of Financial Literacy designed by the OECD in its Financial Literacy Kit.

Table 12. Extract from the questions useful for analyzing financial wellbeing

Question number	Question used in previous OECD studies	Information gathered	Additional information	Creation of financial literacy percentage
QF1	Use to create budget variable	Everyday household financial decisions	To identify those responsible for financial decisions	
QF2	New question to create budget variable	Different behaviors related to budgeting	Replace a question about whether people have a budget, which has led to language problems	Financial performance
QF3	Used to create active savings variable	Various forms of active savings	Allows the respondent to select from several ways in which he/she is exhibiting savings behavior	Financial performance
QF4		Financial resilience to an expense shock	Indicates access to resources in the event of an unexpected expense	
QF5	Used in additional analysis	Establishment of goals	Identifies people who have one or more financial objectives, either individually or in marriage	

Within globalization there are indicators used to be attractive and, in this way, to guarantee foreign capital investment. Although not explicitly mentioned, financial indicators such as income levels and household indebtedness are used to consider possible investments in destination countries.

Heterogeneity in financial literacy suggests different mechanisms that must be different to follow up on the causes and possible consequences. Currently, all these differences have not been sufficiently taken into account, which makes studies related to this important research topic complex.

There is a generalized opinion on the early inclusion of financial topics in the different training curricula in basic and secondary education, understood as comprehensive training. Even at the professional career levels, such as those related to technical education, engineering and others, with the purpose of including financial topics in the curricula. (Montaña & Ferrada, 2021).engineering and others, with the purpose of improving people's quality of life.

Low or non-existent financial literacy is an issue that should concern us, due to the impact of people's decisions to participate in increasingly complex financial markets. In this way, it is possible to reduce the levels of delinquency and indebtedness currently experienced worldwide. In this context, it is necessary to prioritize women (since they are often responsible for the household economy) and people with lower income levels or who live in areas with lower economic activities.

One of the existing problems is financial illiteracy, not only in adolescents, but also in older adults. In the search to increase this knowledge and skills, countries have sought to insert them at an early age, such as pre-adolescence.

Generally, erroneous financial decisions are associated to the lack of knowledge, skills and attitudes necessary to perform in a conscientious manner or to the clarity of basic concepts. The complexity increases with technological advances and the range of

products that modern banking operations have become, making it difficult for users and consumers to make decisions. In this context, financial literacy is an essential aspect to consider in order to ensure inclusion, since it facilitates decision making to select or acquire among the products to be considered that best suit their needs. In this way, they will be able to exercise their rights and responsibilities in a better way, reducing vulnerability and improving the quality of life in households.

Benefits of Financial Literacy

As previously mentioned, Financial Literacy is understood as much more than just achieving knowledge through education. It also includes the development of skills and attitudes, the incorporation of information in decision making in the financial context, to ensure the welfare of people. It is a multidimensional definition and, in the same sense, are the benefits that its achievements bring.

The benefits of Financial Literacy are included in the specialized literature and, as shown in Figure 6, for a better understanding, they have been grouped into global, national, entrepreneurial and SME, family and, finally, individual.

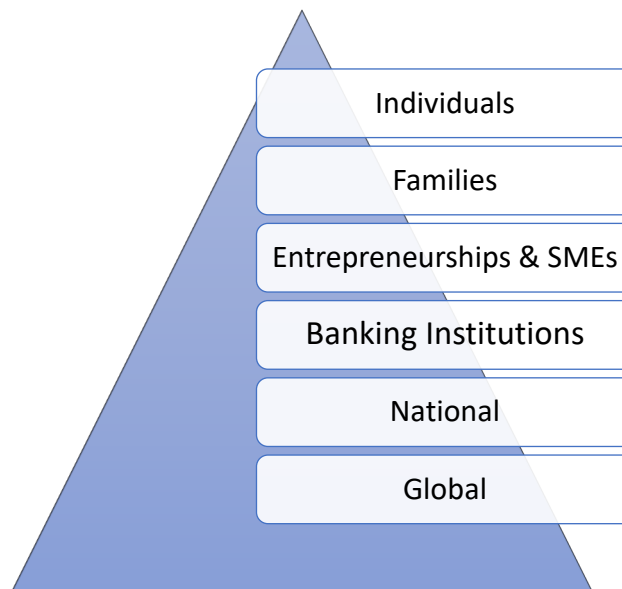


Figure 6. Financial Literacy Beneficiaries

The World Economic Forum (WEF), also known as the Davos Forum, brings together top business, political and other leaders to discuss economic and development issues for a globalized world and, in addition, for a multinational coalition of governments and civil society.

The Davos Forum is a global platform where business leaders, governments, international organizations, civil society and academics meet to address major critical

issues at the beginning of each year, over a period of slightly more than 50 years. They address the issues in the following six clusters:

1. Promoting global and regional cooperation
2. Securing economic recovery and building a new era of growth
3. Building healthy and equitable societies
4. Safeguarding climate, food and nature
5. Driving industrial transformation
6. Harnessing the power of the fourth industrial revolution

During May 22-26, 2022, the Alpine community in Davos will welcome more than 2,500 specialists from Africa, Asia, Europe, the Middle East, Latin America and North America to work together to rebuild trust and shape the principles, policies and actions needed to address the challenges facing the planet.

This Forum publishes, every year, the "Global Risk Report" which contains the greatest risks of the world economy by probability and impact on the expected dangers, based on the analysis of the responses of more than 1,000 experts belonging to the business, academic, social and other fields. The Global Risk Perception Survey (GRPS) is indispensable for the analysis. Global risks is the possibility that an event or condition could occur that could cause negative impacts to countries and industries. The purpose of this is to look into the future in a prospective manner and in the search for measures to mitigate risks and, in this way, to achieve global economic and social stability. (WEF, 2022).

In the recent Davos Report 2022 (WEF, 2022) highlights at number 10, among potential risks, the debt growth crisis after the global impact of COVID-19. The Institute of International Finance (IIF) publishes the record values reached, not only in public indebtedness, but also in household debt. (IIF, 2022). In addition, this WEF Report highlights as long-term risks, i.e., from 5 to 10 years, the adversities in

technological progress. (WEF, 2022). These risks that threaten global economic stability in the near future can be reduced with Financial Literacy programs.

It has been previously mentioned that there is a positive relationship between Financial Literacy and economic growth at the national level. Since, in the long term, this guarantees the quality of life of families, citizens and, ultimately, reduces poverty levels, by achieving financial wellbeing.

Although the SDGs have been related to climate measures and actions, their purpose is the eradication of poverty in the world. In this sense, the SDGs highlight those related to (1) End Poverty, (5) Gender Equality, (8) Decent Work and Economic Growth and, finally, (10) Reduction of Inequalities, whose infographics are shown in Figure 5, these related to the benefits of Financial Literacy. The SDGs are postulated in terms of the social debt owed to the poorest, in this sense the proposal of the first SDG. Similarly, there are workers in the world who do not have decent jobs, well paid or with working hours in accordance with what is established by governments in international agreements, hence the importance of SDG 5, which is also related to the economic growth of the country. The struggle for equal conditions for women and their social character is found in SDG 8. Finally, SDG 10 seeks equal conditions among the countries of the world. The purpose of this last goal is to reduce income inequalities and increase opportunities between countries and regions of the world.

SDG 1 related to "no poverty" in all its forms in the world. Developing opportunities for good and decent jobs and securing livelihoods. Supporting inclusive practices and sustainable business. In addition, promoting best government practices and fair and accountable public institutions.

SDG 5 is focused on empowering women and girls to reduce the gender inequality gap and reduce the social stagnation that this causes. In this framework, it is to "expand trade relations and support them with financial resources and technological

training", "establish wage policies that ensure equal pay for equal work" and "provide training programs...with the aim of empowering them and improving their job skills".

SDG 8 relates to promoting inclusive and sustainable economic growth, decent work for all, which benefits all people equally and is environmentally friendly. Ensuring livelihoods and promoting just and accountable government policies and public institutions.

Finally, SDG 10 is related to reducing inequality between countries. It seeks to reduce inequality of income and opportunities between and within countries and poverty in disadvantaged areas of the planet by promoting the social, economic and political inclusion of vulnerable people.

In addition, organizations such as the OECD/IMF and CFPB emphasize that financial literacy allows people to better manage their resources, a situation that translates into economic development and, indirectly, into an increase in tax revenues by encouraging jobs in the formal economy. (INFE, 2011) (CFPB, 2022).

Finally, it highlights the direct relationship between financial knowledge and literacy in the competitiveness of its institutions, whose purpose is to attract foreign investment to the different productive sectors of the countries, as they are better positioned in the rankings established for this purpose by the World Economic Forum (WEF).

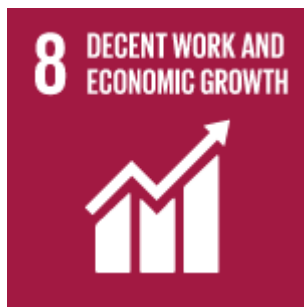
Improvements in levels of financial inclusion have positive economic impacts on nations. Domestically, it offers viable solutions to reduce poverty, reduce poverty, promote inclusive development and the fulfillment of the SDGs. Additionally, it can contribute to the expansion of growth through the mobilization of savings and be attractive to formal sector companies, increasing tax revenues. This can be achieved with the implementation of policies that intensify it at the individual, household and national levels.



Ending poverty in all its forms
worldwide



Achieving gender equality and
empowering all women and girls



Promote sustained, inclusive and
sustainable economic growth, full and
productive employment and decent
work for all.



Reducing inequality within and
among countries

Figure 7. Infographics of SDGs 1, 5, 8 and 10

Entrepreneurship and SMEs

As mentioned above, within the field of competitiveness, the role of Financial Literacy stands out in the development of financial and entrepreneurship skills and SMEs (Abiodun & Entebang, 2017), (Kwaku, 2018), (Ye & Kulathunga, 2019) (Kulathunga, Y, Sharma, & .Weerathunga, 2020). Identifying that there is a correlation between their Literacy and Internationalization, due to the relationships that exist between knowledge, competitiveness and innovation.

In addition, positive impacts have been described on the financial performance of enterprises and SMEs, in proportion to the levels of financial literacy achieved by their owners. There is a proposal that financial literacy should be taught to employees, and the responsibility for training lies with the owners. Additionally, due to the positive impact that these literacy levels bring, the training of the managers and owners of these enterprises should be included in the policies of governments and banking institutions.

Banking institutions

Although not mentioned in detail in the rest of the documents, the financial literacy of consumers of banking products and services brings as benefits financial management processes in line with their needs. In addition, financial literacy has contributed to improving the decision-making process of end consumers.

Families

Family benefits are distinguished not only by the achievement of the financial well-being of each individual, but it is differentiated if the literacy or head of household is a man or a woman. When it is a woman, the availability to spend more time with the family is also reported, to the detriment of a lower income.

The socialization of financial literacy in the family brings as a benefit the development of knowledge, skills and abilities in the children in a greater way. This correlation is further influenced by the knowledge and education, not only of the father or mother, but also by the presence and literacy of older siblings.

Attitudes that ensure financial health and well-being are directly related to the family environment.

Persons

There is evidence that those who have better levels of financial literacy are more likely to save and invest and, in addition, to manage their debt levels adequately.... (Mena-Campoverde, 2022).

To achieve effective financial inclusion, people must possess skills and knowledge. This is a challenge, considering the dynamics of the financial market, which has increased the levels of depth and coverage by incorporating technologies and increasingly complex financial products, significantly from private banking. It is essential that people are increasingly prepared for the proper use of these products and that this ensures their welfare and is not an additional problem.

Financial literacy helps reduce anxiety about the economic future, improves financial decision making during retirement, among other benefits for individuals. In addition, people who have been educated with financial education during their childhood or youth have higher incomes during their adulthood, guaranteeing their well-being and that of their family environment.

Studies on financial literacy are currently increasing, searching for causal relationships based on measurements and different models. It has been shown that there is a difference between countries or cities, in the search to improve the financial competencies of the population and, in this way, to guarantee development.

The importance of financial literacy is because knowledge of its aspects allows making informed decisions and, therefore, obtaining the maximum benefit. For example, understanding the relevance of general and retirement savings, good credit management, the effect of inflation and risk management in financial transactions. In addition, it allows greater participation of the population in the products offered by

the financial sector, which translates into higher levels of inclusion, reducing social gaps.

It is evident that financial literacy studies are not only related to knowledge and education, but it is a multidimensional construct that explains and can be measured through attitude, behavior and knowledge related to savings, investment, and long-term planning and, additionally, the control of indebtedness and budget. (Mena-Campoverde, 2022).. In addition, the proper use of simple interest, compound interest and inflation, considering their value over time, and their risk-return and diversification for decision making.

The factors that make a statistically significant difference and, therefore, impact high levels of financial literacy are the level of study and income, marital status, activity to which they are dedicated (studying, working or in a dependent relationship), the financial behavior of parents and older siblings, as well as to the socialization of financial issues with these actors. In addition, as they become professionals, their income and literacy levels improve. However, this should be a condition for all people, regardless of their income or level of education. (Mena-Campoverde, 2022). Financial markets around the world have become more accessible to the small investor. In turn, the financial products offered by banks are expanding. Initially, credit and mortgage loans have flourished, historically people who enjoy these benefits have the power to decide on their levels of indebtedness. In addition, loans against salary or tax refunds, pawnshops and rent-to-own stores have also increased. (Lusardi & Mitchell, 2016).

As shown above, the benefits of financial literacy are indisputable. Among these is the reduction of global risks that may threaten macroeconomic stability in the long term, as currently referenced by WEF experts. At the country level, it brings benefits that impact on the achievement of the commitments made in the signing of the Paris Agreement of 2015 and the SDGs in the quest to achieve poverty eradication, decent

employment, economic growth and equality not only of gender but also between countries.

In addition, they highlight the benefits to businesses and SMEs, families and individuals of the development of skills and knowledge around financial management achieved with the Literacy plans. The achievement of these benefits and other reasons have increased interest in knowledge development and future research.

According to (Mena-Campoverde, 2022) financial literacy is a multidimensional construct, which can be explained in terms of financial knowledge, attitudes and financial behaviors. Among the relevant aspects are savings and indebtedness, investment and financial planning and, finally, budgetary control. It is shown that the best financial levels are found in young people who also have businesses, educational levels and parents who socialize with their children on financial issues at home.

Future trends of research

Its complex, dynamic and multidimensional nature makes its research multi-criteria, the following is a list of the main lines of future research to be included in financial literacy in the quest to achieve its benefits:

- Multidimensional analysis on financial literacy contributes to the design of effective programs that serve and improve its effectiveness (Faulkner, 2015) (Sekita, Kakkar, & Ogaki, 2022).
- Importance of financial inclusion and its best practices for improving the efficiency of resource allocation in the economy and achieving greater growth and equity. (Totenhagen, et al., 2014) (Candiya, Mpeera, Munene, & Nkote, 2016)
- The age of individuals is an indispensable element and to be further considered for the achievement of Financial Literacy. Some results show differences

between the levels achieved in groups of people between the periods of school-age children (under 16 years), youth, adults and over 60 years. These differences should include not only teaching techniques dedicated to each group, but also different models of valuing achievements, considering the heterogeneity of the results, which have been included in the discussion of different authors. In addition, to delve deeper into elements of school-age learning and the increase of quantitative skills at early ages, including practices with electronic services. Finally, on aspects related to financial behavior with respect to retirement and risk perception rather than risk tolerance. (Amagir, van den Brink, & Wilschut, 2022) (Skagerlund, Lind, C, Tinghög, & Västfjäll, 2018) (Halilovic, Zaimovic, Arnaut, & Zaimovic, 2019) (Swiecka, Yeşilda, Özen, & Grima, 2020) (Thomas & Subhashree, 2020).

- The quest to achieve gender equality and the benefits reported by some research in terms of knowledge, access, and financial inclusion achieved by women is an interesting aspect to be considered in future research (Grohmann, Klühs, & Menkhoff, 2018) (Koomson, Villano, & Hadley, 2019) (Tinghög & Lind, 2021)
- They report some research on the impact brought on financial literacy by the presence of the father and mother on the children. This includes their level of general and financial education, the way in which they manage the money given in cash and other aspects. However, only one of the authors considered slightly emphasizes the impact of the older sibling figure. (Lopus & Grimes, 2019) (Rai, Dus, & Yadav, 2019) (Cupa & Fessler, 2021).
- According to the review conducted, it shows literacy plans initially delivered in libraries and at different educational levels, including early school age to young people in professional careers. However, one of the authors in consultation suggests the importance and possible inclusion of religious

institutions as training centers, which can be additionally considered. (Khawar & Sarwar, 2021).

- It is a fact that the socioeconomic status of families and aspects of culture, religion, and others such as race impact the financial literacy of individuals. However, there is no evidence in the articles under consultation on how to reduce this gap, including in financial literacy plans. In addition, how to develop the culture regarding the management of financial variables of both banking institutions and end consumers. (Kadoya & Rahim, 2020) (Khawar & Sarwar, 2021) (Struckell & Patel, 2022) (Lin & Bates, 2022).
- It is shown as a possible research interest how professional practices, cultures, beliefs, and attitudes, additional to knowledge, influence financial decisions (Brown, Henchoz, & Spycher, 2018) (Agyei, Adam, & Agyemang, 2019) (Khawar & Sarwar, 2021).
- Recent technological aspects, such as the use of payment by cell phone or through cryptoassets have widened the gap in terms of the knowledge and skills needed by adults (over 40 years old) in relation to their literacy. In this sense, it is necessary to include and value within financial literacy these aspects in this group of people (Fukiji, 2019) (Fujiki, 2020). (Hong, Thakuriah, Mason, & Lido, 2020) (Kulathunga, Ye, Sharma, & Weerathunga, 2020) (Kulathunga, Y, Sharma, & .Weerathunga, 2020) .
- It is evident that there is a positive impact between access to financial services and inclusion, even improving people's financial well-being. However, in an emerging country, informal credit applications are still maintained, mainly justified by bank fees. In this sense, it is important to analyze the reasons why this type of economy is maintained over the formal aspects, with emphasis on

financial literacy in the informal sector, financial literacy and business management. (Nicolini, 2019) (Ye & Kulathunga, 2019) (Goyal & Kumar, 2020).

- Initially financial literacy and education was intended for individuals, initially in adulthood and later children and youth. However, the desired growth in ventures and SMEs merits these literacy processes in their owners and employees, which can be undertaken by individuals, banking institutions or public policies. And, significantly, when they are in the hands of women who, to the detriment of their income, consider their time availability to perform other activities. Authors even report significant differences and achievements when these companies are service or manufacturing companies. In this sense, it is interesting to consider as a point of research the actions to be taken in order to obtain the maximum welfare of people to the extent of achieving this literacy. (Abiodun & Entebang, 2017) (Agyei, Adam, & Agyemang, 2019) (Kwadwo, Asantewa, & Otuko, 2020) (Anshika, Singla, & Mallik, 2021)
- At the national level, policies are being implemented to control the actors (banking institutions and consumers of their products) related to the management of their information. In this sense, it is important to evaluate models to assess the quality of the information needed to increase access and inclusion to these products and services for the most vulnerable. In addition to designing and implementing public policies to guarantee financial inclusion oriented to the most vulnerable groups. (Candiya, Mpeera, Munene, & Nkote, 2016) (Kodongo, 2017) (Morgan & Long, Financial Literacy, Financial Inclusion, and Savings Behavior in Laos, 2020) (Muñoz-Céspedes, Ibar-Alonso, & de Lorenzo, 2021)
- As shown in the analysis, there are differences among the countries to which studies on the impact of the different edges of financial literacy have been dedicated. These include Uganda (Candiya, Mpeera, Munene, & Nkote,

2016)Kenya (Kodongo, 2017)Ghana (Kwadwo, Asantewa, & Otuko, 2020) (Agyei, Adam, & Agyemang, 2019)Japan (Fujiki, 2019) (Fujiki, 2020) (Kadoya & Rahim, 2020) (Sekita, Kakkar, & Ogaki, 2022), Bosnia and Herzegovina (Halilovic, Zaimovic, Arnaut, & Zaimovic, 2019), Indonesia (Lopus & Grimes, 2019)India (Rai, Dus, & Yadav, 2019) (Anshika, Singla, & Mallik, 2021)Poland, Poland (Swiecka, Yeşilda, Özen, & Grima, 2020), Sir Lanka (Ye & Kulathunga, 2019), (Kulathunga, Ye, Sharma, & Weerathunga, 2020), Italy (Levantesi & Zacchia, 2021), Chile (Madeira, 2021), Romania (Nitio, Clichici, & Ciocirlan, 2021), USA (Rahim, et al., 2021) (Struckell & Patel, 2022), Java and Bali (Wahyono & Hutahayan, 2021), Mozambique (Amagir, van den Brink, & Wilschut, 2022), Mozambique , Mozambique (Cossa, Madaleno, & Mota, 2022), Vietnam (Nguyen, Hai, Ngoc, Hai, & Thanh, 2022)Portugal (Martins, Madaleno, & Ferreira, 2022) and Colombia (Rodriguez-Raga & Riaño, 2016) (Rodriguez-Raga & Martinez-Camelo, 2022). Only the (Nicolini, 2019) includes the analysis of the European region. In this sense, it is important to include an analysis of financial literacy in the different regions and, especially, at the borders between countries.

- According to (Candiya, Mpeera, Munene, & Nkote, 2016), studies on Financial Literacy are generally limited to cross-sectional studies. In this sense, it is important to adopt longitudinal designs to corroborate the mediating effect of Financial Literacy on capital and inclusion. In addition, published studies are generally quantitative in nature. In this sense, it is advisable to include qualitative studies through interviews with experts, including representatives of financial institutions.
- Globalization and world economic crises, such as COVID-19, have highlighted the levels of indebtedness of countries and individuals, risks and financial fragility. In this context, it is essential to propose models that allow predicting

these financial impacts with a certain degree of accuracy so that they can be included in financial literacy programs. (Aragón-Nogales & al, 2020) (Chhatwani, 2021).

The massive processing of data (Big Data) and technologies based on intelligent analysis for data prediction purposes (artificial intelligence) is becoming an ally in the internal areas of financial institutions.

The financial sector is an industry that has always generated and managed large volumes of information and data. Among the data we find customers, suppliers, and employees. This demonstrates the importance of technology and its usefulness, improving security, customer knowledge, the generation of products and services tailored to the needs. In addition, it is increasingly used to offer new products to the consumer, improve existing solutions, increase operational efficiency in processes and, finally, explore new discoveries and business ideas.

However, from the customer's perspective, technologies can advance to offer products that are more tailored to their needs and improve security. This improves communication with the customer by offering products that are of real interest to them, which can save time and increase the efficiency of the process.

Despite this, the application of artificial intelligence poses a challenge in a globalized world, where it is imperative to guarantee, among other things, the protection of people's data (Escudero, 2017).

Within the financial literacy processes, artificial intelligence has made an impact on:

- a) Virtual teacher: Similar to what has happened worldwide with the virtualization of education at all levels, there has been an incursion into the creation of literacy modes of this type. The difference between teaching processes for adults and children must be taken into account. Within this framework, the

European Commission has promoted the development of an online consumer education tool for adults (Dolceta) in 28 countries. Its purpose is to achieve a homogeneous financial literacy adapted to the context and peculiarities of each country, using ICT, whose development is transforming teaching and learning. (Sánchez, Campana-Plana, & Hernández-Lara, 2011).. It has been dedicated not only to student consumers, but also to teachers in the areas of financial literacy, consumer education and sustainable consumption. For students, the topics of consumer rights, services, product safety, financial services and sustainable consumption are included.

- b) Continuous updating of teachers and instructors involved in financial literacy. Education using ICTs makes it possible to contribute to the learning mediation process with the use of new functionalities. Within financial literacy, the need for education throughout life and adapted to different stages has been highlighted: childhood, pre-adolescence, adults and seniors. Within this framework, each one has different ways to adhere to knowledge and, in this way, achieve the development of new skills and attitudes aimed at the search for financial wellbeing and, significantly, to adapt to the evolution that has been taking place in the different payment methods, as well as in the assessment of the risks of the different financial products.
- c) Identification of topics for learners: Artificial intelligence can efficiently locate the most attractive financial literacy topics and thus achieve higher levels of training.
- d) Adaptation of learning to the student: There are differences in the way in which each person learns, not only in the way but also in the pace. With artificial intelligence applications, it is able to adapt to the way each person learns, reinforcing the resources created for their needs.

- e) More efficient assessments of students: Different applications of artificial intelligence make it possible to recognize the student and, in this way, select the individualized way to assess his or her level of knowledge, as well as introducing other benefits, such as time savings.

The heterogeneity of the topic of financial literacy suggests different mechanisms that must be different to follow up on the causes and possible consequences. Currently, all these differences have not been sufficiently taken into account, which makes studies related to this important research topic complex. How this last chapter is included there are different lines of research, from the differences that exist even in the literacy levels of the most vulnerable to complex models for their analysis.

Studies on financial literacy are currently increasing, looking for causal relationships based on measurements and different models. The difference that exists between countries or cities has been demonstrated, in the search to improve the financial competencies of the population and, in this way, to guarantee development. Its importance lies in the fact that knowledge in its aspects allows informed decisions to be made and, therefore, to obtain the maximum benefit. In addition, it allows a greater participation of the population in the products offered by the financial sector, which translates into higher levels of inclusion, reducing social gaps. During the material, it has been included how this literacy at a global level, decreases the risks declared in the long term by the Davos Forum, also contributes to the achievement of SDGs 1, 5, 8 and 10, signed in the recent Paris Agreement of 2015 and that seek, among other purposes, the eradication of poverty, reduce the gender gap and between countries and regions and achieves decent and inclusive work for all. There are other benefits to entrepreneurship, SMEs, microeconomics, families, individuals and society in general, which make it an important research topic for scientists and academics in all parts of the world.

The authors highlight various authors of the articles consulted, from the point of view of knowledge, include largely in the categories of microeconomics and financial economics. However, some additionally include them in the areas of General Economics and Teaching, Mathematical and Quantitative Methods, Macroeconomics and Monetary Economics, Health, Education and Welfare, Labor and Demographic Economics and Other Economic Aspects. This shows that there is no consensus on the categorization of Financial Literacy to be included in economic journals, due to its nature.

The need for financial literacy is conceived due to the lack of knowledge, skills and attitudes and the susceptibility of consumers of banking services and products to make inadequate decisions to ensure their wellbeing. Currently, nations, companies and individuals are struggling and facing different crises, including financial crises. Public policies and regulations, within the framework of competitiveness and internationalization, can only provide certain levels of protection, but cannot ensure success in economic and financial transactions. From there, the initiatives of institutions and organizations to spread financial literacy among the most vulnerable.

It is evident that financial literacy studies are not only related to knowledge and education, but that it is a multidimensional construct that explains and can be measured through attitude, behavior and knowledge related to savings, investment and long-term planning and, additionally, control of indebtedness and budgeting. Among the indicators that have an impact and make a difference are the level of education and income, marital status, the activity to which they are dedicated (studying, working or in a dependent relationship), the financial behavior of parents and older siblings, as well as the socialization of financial issues with these actors. Moreover, as they become professionals, their income and literacy levels improve. However, this should be a condition for all people, regardless of their income or level of education.

Low or non-existent financial literacy is an issue that should concern us, due to the impact of people's decisions to participate in increasingly complex financial markets. In this way, it is possible to reduce the levels of delinquency and indebtedness currently experienced worldwide. In this context, it is necessary to prioritize women (since they are often responsible for the household economy) and people with lower income levels or who live in areas with lower economic activities.

Generally, erroneous financial decisions are associated to the lack of knowledge, skills and attitudes necessary to perform in a conscientious manner or to the clarity of basic concepts. The complexity increases with technological advances and the range of products that modern banking operations have become, making it difficult for users and consumers to make decisions. In this context, financial literacy is an essential aspect to consider in order to ensure inclusion, since it facilitates decision making to select or acquire among the products to be considered that best suit their needs. In this way, they will be able to exercise their rights and responsibilities in a better way, reducing vulnerability and improving the quality of life in households.

The material you have in your hands has been developed around the knowledge that we have about Financial Literacy today, where this went from being education plans for adults around achieving properly manage their savings for their enjoyment during retirement period to become a tool that allows its evaluation, serve as attractive to investors of financial products. This literacy has proven to be a useful tool for the fight against poverty, the achievement of the SDGs and competitiveness at all levels. We hope that you, as a regular reader, will enjoy the material that has been prepared on this important topic.

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