Financial Literacy and its Relationship to the Indebtedness of a Bank's Customers

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Abstract. The success or failure of economic agents, especially families, depends on decision making, which in turn will depend on the capabilities, knowledge and skills acquired through financial education. In this sense, the lack of financial capabilities is considered one of the most pressing problems in today's societies. In Peru, one of the main barriers to financial inclusion is the lack of financial education; these low levels of education affect the contracting of active and passive operations in the financial system. The objective of this research was to determine the relationship between financial literacy and the indebtedness of the clients of a banking agency. The methodology has a quantitative approach, correlational level, cross-sectional and non-experimental design. The population considered is finite, 1600 customers in the bank and the study sample was 310 customers. A survey was used as a technique and a 36-question Likert scale questionnaire was used as an instrument. The correlational results present a Spearman's Rho =0.474; the research also finds that 73.23 % of the bank's clients are interested in knowing the interest rate (TCEA) before contracting a loan on the active operations side and on the passive operations side 54. Regarding savings, 60% of the bank's clients consider it important to save in the financial system, which is consistent with the fact that 65.49% tend to keep their savings in the banking system for a period of more than 12 months, demonstrating confidence in the Peruvian financial system. It is concluded that there is a relationship between financial literacy and the indebtedness of the clients of the Lima branch of a bank, obtaining a positive correlation.

Key words: Financial literacy, Financial knowledge, Financial skills, Financial attitudes, Indebtedness

1. Introduction

According to the World Bank (2020) the COVID-19 pandemic has transformed the way in which economic agents face budgetary restrictions; many of them, in their search to improve their income, have opted for developing enterprises, making use of their pension funds and, above all, getting into debt in the financial system. Arellano et al. (2014), Machuca-Vílchez et al. (2023) and Cordova-Buiza et al. (2022) have already pointed out that society is characterized by high levels of indebtedness and growing savings needs, whose members have a general lack of understanding of financial matters. This is a serious problem in the economic and financial affairs of economic agents, especially families. In this regard, Martínez-Carrasco et al. (2016) and Huaman-Ñope et al. (2023) state that having an adequate financial education in society implies acquiring knowledge on this subject, in addition to generating diverse skills, confidence and mastery, to face risks, associated with an informed decision on financial opportunities and their wellbeing. Consequently, it is up to public and private institutions to promote financial inclusion strategies. For García et al. (2013) and Barro-Chale et al. (2023) the financial education initiatives promoted by these institutions can become an important complement to financial inclusion processes and poverty reduction measures. In this sense, many Latin American countries have implemented public policies focused on financial inclusion, such as Argentina, Brazil, Mexico, Colombia, Chile, Paraguay, Uruguay and Peru.

In this regard, in October 2020, after 15 years, the Organization for Economic Cooperation and Development (OECD) has renewed its objectives on financial education. According to López (2020) and Salazar-Rebaza et al. (2022) these objectives seek to have a fundamental impact on the design, development and evaluation of public policies on financial education, although private sector initiatives and financial education programs in general can also be useful, thus visualizing the commitment assumed by the different governments in the design of public policies focused on a framework of financial inclusion and various private institutions, especially financial institutions.

The supervisory agency in Peru, Superintendence of Banking, Insurance and AFP (2019), in the survey to measure financial capabilities, to measure financial knowledge, adopts the Methodology used by the OECD and the International Network on Financial Education - INFE, found that the percentage of adults with high financial inclusion in the segment with primary education was significantly lower compared to the results of the other educational levels. The findings show discouraging progress in the period 2013 - 2019, since, in this period, the score obtained by the group of respondents with lower educational level contracted only 1.2 percentage points. On the other hand, the results achieved by the secondary and higher education level had a notable increase over time, reaching double the score obtained by the secondary education level, with 36.3% of the total of adults with higher education having high financial inclusion. In addition to the introduction, in section 2 we review the literature, in section 3 the method of analysis is presented, in section 4 the data is shown, in the next section the results and discussion are shown, and finally, the conclusions.

2. Literature Review

Organization for Economic Cooperation and Development and the Andean Chamber of Development (OECD/CAF) (2020) define Financial Literacy as: "financial capabilities, understood as the knowledge, skills, attitudes and behaviors of specific population groups". Del Angel and Moreno (2021) define financial literacy as the process by which the economic agent develops awareness, knowledge, skills, attitude, discipline and behaviors necessary for making financial decisions; the same that contribute to his or her wellbeing.

Espinoza et al. (2019) notes that citizens improve their financial decisions by having high levels of financial education, which translates into positive results in economic growth and development. For the authors, "this type of education does not only imply having information and financial advice, but also seeking for people to improve their understanding of financial products and services and the risks they imply" (p. 4).

Kadoya et al. (2017) propose that financial literacy contributes to reduce anxiety about the economic future, through better savings and investment decisions, leads to the accumulation of more assets and obtaining more income, thus improving financial capability and reducing anxiety. In the same vein, Ramirez (2021) indicates that financial literacy implies for a person must be competent to understand how money works, how to manage income and expenses, how and where to invest, manage financial risks effectively and, most importantly, avoid financial problems.

Arroyo (2019) analyzes the financial capabilities of university students in Esmeraldas (Ecuador), finding that they possess little financial knowledge, the same that impacts their financial attitudes and behavior. Likewise, Mudzingiri et al. (2018) for the case of university students in South Africa their financial behavior related to confidence, time preferences, risk preferences, differ according to the level of financial literacy of university students differ according to the level of financial literacy, which reinforces the argument that people with high financial literacy achieve better results in life. In the same sense as Arroyo, Peñarreta et al. (2019) when analyzing the financial education of Ecuadorian banking clients in terms of the dimensions of knowledge, behavior and aptitude, find that only one third of the surveyed population has financial education.

Mamani (2020) studied financial education and its influence on the indebtedness of clients of the Municipal Savings and Credit Agency in the city of Cusco, using a Likert scale questionnaire as an instrument, and found a positive effect, which reinforces the idea that greater financial knowledge leads to optimal indebtedness. Muñoz-Murillo et al. (2019) studied the theoretical link between literacy levels and cognitive skills, and found that cognitive ability strongly predicts financial literacy, even after controlling for the confounding factors of arithmetic, these are positively related; also, the study shows that there is no significant difference between men and women and that the presence of financial products in the environment is important, but cognitive skills have greater significance.

3. Methods

This research has a quantitative approach, with a correlational level and a non-experimental cross-sectional design. The instrument used has been adapted from the instrument used by the OECD to measure financial education, with respect to the fact that financial literacy contributes to social welfare, having a positive impact on indicators such as savings, investment, indebtedness, among other economic and financial aspects of economic agents. The study population is made up of 1,600 clients of a bank agency in central Lima. A sample of 320 clients was drawn by means of probability sampling.

From the above, the unit of analysis is the client of a bank agency, who carries out active and passive operations with the financial entity selected for the study. Spearman's correlation coefficient was used to obtain the results, as it is an appropriate measure of rank correlation (statistical dependence of the ranking between two variables). In this case, between the variables of financial education and indebtedness.

4. Data Collection

For data collection, the survey technique was applied in order to obtain information for the stated objective. An instrument was developed based on OECD/INFE (2018) that consisted of a questionnaire with answers on the Likert scale, 24 questions were posed for the financial education variable and 12 for the indebtedness variable, which the study subjects answered according to their criteria and visualizing the following categories: never (1), almost never (2), sometimes (3), almost always (4) and always (5). This instrument was validated by 3 experts with experience in the research topic.

Table 1: Dimensions for the Variable Financial Education (Financial Literacy)

Dimensions	Indicators	Items (Questions)
Financial knowledge	Interest	1,2
	Risk-return	3,4
	Inflation	5,6
	Diversification	7,8
Financial skills	Holding of savings products	9,10
	Debt compliance	11, 12
	Income and expense management	13,14
Financial attitudes	Short-term preferences	15,16
	Long-term preferences	17,18
Financial behavior	Types of products purchased	19-20
	Amount spent	21-22
	Frequency of purchases	23-24

Table 2: Dimensions for the Indebtedness Variable

Dimensions	Indicators	Items (Questions)
Cultural and Social	Consumer habits	25,26
	Credit practices	27,28
Debt Level	Debt to gross income ratio	29,30
	Delinquency/defaulted debt	31,32
Financial Weakness	Credit supply	33,34
	Over-indebtedness	35,36

In addition, by means of Cronbach's Alpha test with the SPSS program, the reliability of the items was measured by means of a pilot test applied to 60 clients from which a reliability level of 0.784 was obtained with respect to the 36 elements (items). The final information was collected by direct interview, approaching the clients at the exit of the bank agency, and with the use of the printed instrument to collect their answers, then the information was tabulated in an Excel file to obtain a database that allows the application of the proposed methodology.

5. Results and Discussion

5.1 Analysis at the Descriptive Level

Some results of the descriptive analysis of the financial education and indebtedness variables with their respective dimensions are presented below.

Table 3: Results on the Financial Education and Indebtedness Variables with Their Respective Dimensions (in percentages)

Category	When taking out a bank loan, I inform myself about the interest to be paid.	When opening a fixed-term or savings account, I find out in advance about the interest to be received (TREA).	I consider saving in the financial system to be important.	When taking out a bank loan, I usually pay the entire debt in a period of less than 12 months.
Never	0.97	9.03	2.58	16.77
Almost never	7.74	17.42	13.55	26.77
Sometimes	18.06	18.71	23.87	20.32
Almost always	29.68	23.23	33.55	20.97
Always	43.55	31.61	26.45	15.16
Total	**100.00**	**100.00**	**100.00**	**100.00**

Some noteworthy aspects are that 43.55% and 29.68% of the Bank's clients are always and almost always informed about the interest to be paid when contracting a loan in the financial system. Likewise, 31.61% and 23.23% of the Bank's clients are always and almost always informed about the interest to be received (TREA) when opening a time or savings account. It is also noted that 26.45% and 33.55% of the Bank's clients always and almost always consider that saving in the financial system is important. Finally, 15.16% and 20.97% of the Bank's clients, always and almost always, when taking out a bank loan, usually repay the debt in full in a period of less than 12 months, which is evidence of medium-term indebtedness.

5.2 Analysis at the Inferential Level

The results of the correlation are shown in the following table.

Table 4: Correlation Relationships of Some Important Variables

	Debt Level	Financial Weakness	Social Culture	Financial Skills
Financial skills			0.2728***	
Financial behavior	0.4417***		0.4288***	
Financial attitudes		0.2409***		
Financial literacy	-0.0498	0.1172**		0.3803***

Significance: 0.01***; 0.05**

As a general hypothesis, it was proposed that financial literacy is related to the indebtedness of the clients of the Lima Centro branch of a bank, 2022. As a result, an average negative correlation (-0.0498) is found between the study variables, so it is concluded that financial literacy has a negative relationship with the level of indebtedness of the clients of the Lima Centro branch of a bank. From the above, the higher the level of financial literacy, the lower the possibility of having an indebtedness that means a problem for the bank's clients, this goes hand in hand with the answers, for example, to the question regarding whether the clients were informed about the interest to be paid, with 73% responding that they have this good practice; as well as the same percentage considering that it is important to pay the financial entities on time. Another aspect to consider is time, 36% when contracting a bank loan usually pay in full in a period of less than 12 months.

The correlation between the dimensions of financial knowledge and financial weakness, measured by the items "When contracting a loan in the financial system, I find out about the interest to be paid" and "I make cash withdrawals from my credit card to pay off other debts", shows a low but significant positive correlation. Likewise, between financial skills and social culture, measured as "I consider it important to pay financial institutions on time" and "I take care of my credibility in the financial system", the correlation is positive and significant.

If we consider financial behavior related to social culture, measured as "Before buying something, I carefully consider whether I can afford it" and "My consumption patterns are related to my monthly income" respectively, we find a significant positive correlation, so that financial behavior has a positive average relationship with the dimension level of social culture, of the clients of a bank's downtown Lima agency. Similar results are found for financial behavior and level of debt, this time measured as "For the most part, the products I purchase cover my primary needs" and "My monthly payment installments exceed 30% of my net income"; consequently, the clients of a bank's Lima center agency, their financial behavior would be related to a higher payment of debt in the short term, which is a symptom of risk of default.

Regarding financial attitudes in relation to financial weakness, measured as "When taking out a bank loan I usually pay the debt in full in less than 12 months" and "I make cash withdrawals from my credit card to pay off other debts" respectively, a positive and significant relationship is found, which would not be a good strategy, given that the costs of credit cards are high compared to other financial products.

Finally, the correlation between the dimensions of financial knowledge and financial skills, measured as "When opening a time or savings account, I inform myself beforehand of the interest to be received" and "Saving in the financial system is considered important" respectively, shows a positive and significant correlation. This is positive, since the clients of this banking agency in Lima would be aware of the importance of being informed about savings payment rates and the importance of saving in their personal finances.

5.3 Discussion

The results for the general objective indicated that there is an average negative relationship between financial literacy and client indebtedness, so it can be argued that if financial literacy is increased in its different dimensions, financial knowledge, financial skills, financial attitudes and behavior, the level of client indebtedness decreases proportionally. This result is in line with the findings of Mamani (2020) and Franco & Venegas (2020) who agree that an adequate level of financial literacy leads to optimal debt levels among the different study groups. Likewise, with the findings of Muñoz-Murillo et. al (2019) who find that cognitive ability strongly predicts financial literacy, and that the presence of financial products in the environment is important, but cognitive skills are more significant.

Financial behavior is one of the most important dimensions of financial literacy, from our analysis we found that there is relationship between it and the level of debt, correlation coefficient was 0.4417, these results are consistent with the finding of Mudzingiri et al. (2018) who find a weak significant difference (of 10%) between financial behavior and the level of indebtedness of college students by their level of financial literacy. These results confirm that financial behaviors differ if people have different levels of financial education, which reinforces the argument that people with high financial education achieve better life outcomes. However, our findings regarding this dimension differ with Arroyo (2019) who finds that, regarding financial behaviors by making use of budgeting and planning either exactly or in a general way, however, despite the existence of planning, a large portion of students have had complications in covering expenses.

With respect to the financial knowledge dimension our study finds that 73.23 % of the bank's clients always and almost always are interested in knowing the interest rate (TCEA) before contracting a loan on the side of active operations and on the side of passive operations 54. 84% of the bank's clients, always and almost always, inform themselves about the interest to be received (TCEA), the same that differ with the finding of Peñarreta et al. (2019) whose results found evidence that only one third of the population surveyed in their study, has financial education. Regarding savings, 60% of the Bank's clients always and almost always consider it important to save in the financial system, which is consistent with the fact that 65.49% usually keep their savings in the banking system for more than 12 months, demonstrating confidence in the Peruvian financial system.

Finally, it is important to know the results of the study related to delinquency, as a manifestation of lack of financial literacy since this situation leads economic agents to lose the credibility of the financial system, to be reported negatively in the credit bureaus, in this regard, 73% of the Bank's clients always and almost always, consider it important to pay financial institutions on time, these results differ with the findings of Barzola et. al (2020) and Del Castillo (2019) who find that their study groups do not have adequate financial literacy which leads them to misuse financial products.

6. Conclusions

As for the relationship between financial literacy and the indebtedness of the clients of the Lima Centro branch of a bank, 2022, given the correlation coefficient obtained (-0.491) would indicate that there is a negative relationship between the two variables. Therefore, clients with higher levels of financial knowledge would have fewer problems in meeting their liabilities. Regarding the relationship between financial knowledge and client indebtedness, the measurement of concepts such as active and passive interest rate, risk, profitability and inflation is deepened, in such a way that, the higher the level of financial knowledge, the higher the level of indebtedness of the clients.

It is found that there is a significant relationship between financial skills and customer indebtedness, in this second dimension the measurement of decisions such as the frequency of saving, timely payment to financial institutions, control over income and expenses both family and business, so that, the higher the level of financial skills, customers have a better management of their indebtedness. In addition, there is a significant relationship between the attitudes and indebtedness of the clients, in this fourth dimension the measurement of the attitude of the clients regarding the time in which they pay their debts and maintain their savings is deepened, in such a way that, the higher the level of financial attitudes, the better the clients manage their indebtedness.

On the other hand, a significant relationship is found between the behavior and indebtedness of the clients, in this fourth dimension the measurement is deepened with respect to the behavior of the clients at the moment of acquiring their products if these cover their primary or secondary needs, if they carefully consider if they can pay for what they acquire as well as the times they usually go shopping, such is the case that, with an adequate behavior, the clients have a better management and level of indebtedness.

Finally, the results obtained have implications with the theories used in the study, since they show us that financial education is an instrument that helps people or economic agents to make better financial decisions, in this case, bank customers with more financial education have better levels of indebtedness, taking as a reference the rate and terms.

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