How much do young professionals know about the Ecuadorian capital market?

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ABSTRACT
The main research objective is to know the level of stock market literacy as a subsection of financial literacy of young Ecuadorian professionals to understand the Ecuadorian capital market development on the demand side. This study specifically aims to analyze the stock market literacy scores by the sociodemographic variables (educational level, gender, marital status, area, and age). Four hundred twenty-one master’s degree graduates and students, young professionals, were surveyed and evaluated with a tailor-made scale of forty-six items under two dimensions of stock market literacy (SML); financial knowledge (FK) and financial attitude (FA). The statistical analysis reveals master’s graduates and people with housing in urban areas have higher literacy levels, and the stock market literacy on average in Ecuador is (0.57). The study’s results filling the research gap in the field, confirm the lack of knowledge about the stock market in Ecuador, and point out an issue to address in public policies for economic development.

CCS CONCEPTS
• General and reference → Document types; Surveys and overviews; Document types; General conference proceedings; Document types; General literature..

KEYWORDS
Stock market literacy, Financial Knowledge, Financial Attitude, master’s degree program, young professionals

1 INTRODUCTION
According to León and Afcha, the progress of properly structured capital markets has granted a greater diversification of the financial system [1]; however, the Ecuadorian reality is quite different. Since its beginning in 1935, Ecuador’s foray into the stock market was not well structured. In 1965, “Comisión de Valores - Corporación Financiera Nacional” created to promote the stock market does not work as it expects. It was not until 28 years later, 1993 when the stock market reactivated its operation through the first securities law. In general, the lack of experience and financial knowledge of leaders and inhabitants disadvantaged the institution of the stock market [2].

The economic situation of the Ecuadorians in recent years is another reason for which the stock market has not achieved consolidation effectively. In 2019, they negotiated 11.797 million on the stock market, representing only 11% of the national GDP [3]. Nowadays, the Ecuadorian stock market still has many shortcomings to improve. The information available about the operation of the stock market is limited; there are no official sources that provide up-to-date information about the operating costs of the stock market [4] [5]. Remarkably, the lack of public policies, the instability of the previous governments, and other difficulties have destabilized the country’s economy and a readjustment of income [6]. In the third quarter of 2019, the Gross Domestic Product (GDP) of Ecuador decreased 0.1%, compared to 2018 [7]. Therefore, the culture of saving has been in constant decline in the country, which means a problem of great magnitude, given the importance that savings exchange of citizens represents in the stock market [1]. According to The Global Findex of the World Bank, the culture of...
saving is low in Ecuador since, in their data, only 34% of Ecuadorian households save [8].

In addition, the financial knowledge of the Ecuadorian inhabitants still seems to be scarce. In a recent study on university students in Ecuador from Mendez et al. 2019, they revealed low levels of financial knowledge. About 51% of the students obtained a score between 0% and 40%, out of a maximum score of Financial Knowledge of 100% [9]. According to other findings research, this precedent denotes an impediment of great significance to the stock market development in Bosnia and Herzegovina. Halilovic et al., evaluating adult financial literacy, found that savings in the workforce are affected by financial literacy [10].

Given the importance of financial literacy, focused on the capital market, the main objective of the research is to know the level of Ecuadorian stock market literacy. The study is as a subsection of financial literacy, focused students and graduates of the fourth educational level (master degree or more) on showing the current situation of the Ecuadorian stock market reality, or, in other words, to establish:

How much do young professionals know about the Ecuadorian stock market?

Specifics objectives:

- To describe the stock market literacy level of the students and graduates of the fourth educational level by demographic variables (academic rank, gender, marital status, area, and age).
- To evaluate the stock market literacy level of the students and graduates of the fourth educational level.

Thus, the main contribution of this study is to show the level of stock market literacy of Ecuadorians, with distinctive considerations to other studies carried out in Ecuador on financial literacy: a population of interest not studied before; students and graduates of the fourth educational level, and an assessment of financial literacy mainly about the Ecuadorian stock market.

Ben Douissa defines financial literacy as construction depending on the study region, even among the countries of the same area [11]. In this way, this study uses a proposed scale, compound by two dimensions, financial knowledge (FK) and financial attitude (FA). The critical information about Ecuadorians’ stock market has been included in the FK section to evaluate their literacy score. The following section provides a brief review of the literature of international studies focused on evaluating stock market literacy since, in Ecuador, few studies measure the level of people’s financial literacy. This section offers a short definition of financial literacy. In addition, it also presents the methodology, which specifies the data collection process from students and graduates of the fourth educational level of ESPOL (Escuela Superior Politécnica del Litoral) Polytechnic University. The third section provides demographic variables information about the descriptive statistics of the respondents and the stock market literacy score of the students and graduates of the fourth educational level. In the fourth section, the results were obtained and compared with those carried out in other studies, following by section 5 with critical and concluding points.

2 RELATED LITERATURE

Financial literacy is essential across the board since it has a considerable impact on the global economy and the well-being of individuals and families [12]. FL has been an integral part of life since the 21st century [13], emphasizing young people who will start their professional lives and face financial decision-making. In this context, little-studied financial decisions can generate considerable negative consequences as the 2008 crisis [14].

The Organization for Economic Co-operation and Development (OECD) defines financial literacy as the set of financial attitudes, financial knowledge, and financial behavior [15]. A study by Rahim et al. raises, in essence, this definition although highlighting the group of aspects proposed in the OECD definition like essential for achieving maximum benefits in the use of these resources [16]. Given this, financial literacy is also about the set of financial knowledge necessary for people to have good financial behaviors and attitudes, such as the efficient administration of financial resources.

On the above based, this study uses two dimensions established by the OECD 2013 to measure stock market literacy: financial knowledge and financial attitude [15], and the minimum number of correct answers per dimension: 5 right answers out of a total of 7 questions for financial knowledge (minimum score 0.71), for financial attitude (minimum score 0.60), three correct answers out of a total of 5 questions [17]. In this sense, the minimum stock market literacy score in this study is 0.66.

In addition, the literature serves to understand how many Demographic variables are usual and relevant for this research design. Ecuadorian research on financial literacy is limited. Only one scientific study referred in Scopus indexation for Mendez et al. 2019 formally evaluate the educational level on financial literacy, remarking people with higher education have higher levels of financial literacy [9]. Regarding the literature of other countries, in China, the results obtained by Jiang et al. seem to coincide with the study findings from Ecuador since investors with higher educational levels obtained better financial literacy scores [18].

Regarding gender, some studies have found evidence that females have lower levels of financial literacy [19] [20] [21]. On the other hand, according to Brown and Graf, there are different levels of financial literacy based on people’s marital status, justified by the fact that the married group is better at managing finance [22]. The results found in the study by Kiliyanni and Sivaraman could validate this questioning since married respondents on all the topics of financial literacy assessment scored better than single respondents [23].

Differences are also found in financial literacy by the location of people’s households; according to a study conducted in Indonesia by Santoso et al., families in rural areas have less financial literacy than households in urban areas [24]. Finally, age also seems to be important in people’s financial literacy level. A study conducted in Japan by Kawamura et al. found that financial literacy increases almost linearly with the age of the people; namely, the results of this study suggest that the older the age, the higher the level of financial literacy [25].

Thus, this study examined five of the demographic variables most discussed in the literature: educational level, gender, marital status, area, and age.
3 METHODS AND MEASURES

3.1 Dataset collection and procedure:
Through a survey conducted person to person and online version July 2019, the collecting data process required masters’ degree students and postgraduates of ESPOL Polytechnic University in July 2019, from careers related to mechanics, electronics, biology, finance, graphic design, among others.

With forty-six questions, including demographic variables, the activity in the stock market, investment preferences, financial knowledge, and financial attitude have been evaluated in four hundred twenty-one people.

The sociodemographic questions section consists of twelve questions associated with age, gender, area, city, marital status, educational level, province, etc., seven questions to know the activity in the stock market and the investment preferences.

The financial knowledge dimension consisted of fourteen items based on questions from Mejia et al. on diversification and inflation [26], Agama on the discount rate of a security and the Ecuadorian stock market [27], Agama on the operation of the Ecuadorian stock market [28], Carrasco about the rate of return of a bond [29], and other items proposed by the authors. The financial attitude with thirteen Likert scale items like 5 for “totally agree” and the lowest 1 for “totally disagree.” FA composition is about nine items related to investment in the stock market and debts by Brown et al. [30], plus two items on buying in the stock market from the Central Council for Financial Services Information [31], complemented with the authors’ proposals.

The STATA 14.0 [32] serves to analyze the stock market literacy score.

4 RESULTS

Table 1 contains descriptive statistics where the male group is slightly higher, having 52.49% of the sample. 29 to 32 years old is the predominant range with 30.17%; meanwhile, the over 36 years old is only 20.90% of the data. Regarding the educational level, 37.29% are postgraduates, 35.15% are freshmen, and 5.70% doing the thesis into the postgrad sample. More than half are single, 28.50% are married. Looking for a residence area, the local province of Guayas represents 83.14% of the participants, followed by 4.04% from Manabí, 3.09 % Los Ríos, and 2.14% El Oro and 96.20% came from urban areas.

Table 2 shows the evaluation of financial knowledge, financial attitude, and stock market literacy of this study’s demographic variables of interest. The male equal to female obtained the highest average score for financial knowledge (0.50) and financial attitude (0.65). The female group got the best average score in stock market literacy (0.58) by thousandths. There are no significant differences between gender variables.

Age is an essential finding difference in evaluating stock market literacy. According to age, Table 3 remarks that respondents over 36 years old obtained the highest average score for financial knowledge (0.53). Students between 23 and 24 got the best average score for financial attitude and stock market literacy, 0.67 and 0.60, respectively. In addition, people between 20 and 22 years old obtained the worst average score for financial knowledge, financial attitude, and stock market literacy, 0.44, 0.61, and 0.52, respectively.

The knowledge and attitude are sensitive variables within those groups.

The educational level of the respondents detailed in Table 4 shows the master’s degree graduates with the highest average score in financial knowledge, financial attitude, and stock market literacy (0.58, 0.66, 0.62), Graduates have a higher level than people starting their master’s degree, obtaining the lowest average score.
Table 2: The total FK, FA, and SML scores (%) by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Financial Knowledge</th>
<th>Financial Attitude</th>
<th>Stock market Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.50</td>
<td>0.65</td>
<td>0.57</td>
</tr>
<tr>
<td>Female</td>
<td>0.50</td>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>LGBT</td>
<td>0.00</td>
<td>0.60</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Table 3: The total FK, FA, and SML scores (%) by age

<table>
<thead>
<tr>
<th>Age</th>
<th>Financial Knowledge</th>
<th>Financial Attitude</th>
<th>Stock market Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-22</td>
<td>0.44</td>
<td>0.61</td>
<td>0.52</td>
</tr>
<tr>
<td>23-24</td>
<td>0.52</td>
<td>0.67</td>
<td>0.60</td>
</tr>
<tr>
<td>25-28</td>
<td>0.49</td>
<td>0.65</td>
<td>0.57</td>
</tr>
<tr>
<td>29-32</td>
<td>0.48</td>
<td>0.65</td>
<td>0.56</td>
</tr>
<tr>
<td>33-36</td>
<td>0.51</td>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>More than 36 years</td>
<td>0.53</td>
<td>0.65</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Table 4: The total FK, FA, and SML scores (%) by educational level

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Financial Knowledge</th>
<th>Financial Attitude</th>
<th>Stock market Literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting the mastery</td>
<td>0.45</td>
<td>0.65</td>
<td>0.55</td>
</tr>
<tr>
<td>Finishing the master’s degree</td>
<td>0.50</td>
<td>0.64</td>
<td>0.57</td>
</tr>
<tr>
<td>Doing Thesis</td>
<td>0.52</td>
<td>0.65</td>
<td>0.59</td>
</tr>
<tr>
<td>Master’s Graduate</td>
<td>0.58</td>
<td>0.66</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Table 5: The total FK, FA, and SML scores (%) by marital status

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Financial Knowledge</th>
<th>Financial Attitude</th>
<th>Stock market literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>0.49</td>
<td>0.65</td>
<td>0.57</td>
</tr>
<tr>
<td>Free Union</td>
<td>0.52</td>
<td>0.63</td>
<td>0.57</td>
</tr>
<tr>
<td>Married</td>
<td>0.50</td>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.56</td>
<td>0.65</td>
<td>0.60</td>
</tr>
</tbody>
</table>

for financial knowledge (0.45) and SML (0.55). The educational level shows a difference in stock market literacy.

Marital status is a crucial variable defining stock market literacy because they face financial decisions actively increasing their stock market literacy. However, married and single individuals obtained the highest average score for the financial attitude component, and Table 5 points out the divorced group getting the best average scores on financial knowledge (0.56), financial attitude (0.65), and stock market literacy (0.60).

Regarding the dwelling area of the respondents, persons with homes located in rural areas obtained the highest financial attitude score (0.67). In contrast, people in urban areas received the highest average score for financial knowledge (0.50) and stock market literacy (0.58), see Table 6

The average stock market literacy score of all respondents is only seven hundredths above 50% of the correct answers; in this way, respondents did not obtain the minimum stock market literacy score defined by the OECD (0.66). In addition, the lowest score was 29%, and no respondent managed to obtain the exact score; the highest score was 91%, see Table 7

Regarding the dimensions’ scores, on average, the respondents have a better performance in financial attitude (0.65). This score is higher than the minimum score defined by the OECD for Financial Attitude (0.60) and even higher than respondents’ average score in stock market literacy. However, the average financial knowledge score was lower than that defined by the OECD (0.71), see Table 8.
How much do young professionals know about the Ecuadorian capital market? 

Table 6: The total FK, FA, and SML scores (%) by zone

<table>
<thead>
<tr>
<th>Area</th>
<th>Financial Knowledge</th>
<th>Financial Attitude</th>
<th>Stock market literacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>0.50</td>
<td>0.65</td>
<td>0.58</td>
</tr>
<tr>
<td>Rural</td>
<td>0.47</td>
<td>0.67</td>
<td>0.57</td>
</tr>
</tbody>
</table>

Table 7: Average Stock market literacy of respondents

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stock market literacy</td>
<td>421</td>
<td>0.57</td>
<td>0.11</td>
<td>0.29</td>
</tr>
</tbody>
</table>

Table 8: Average financial knowledge and financial attitude

<table>
<thead>
<tr>
<th>N</th>
<th>Financial Knowledge</th>
<th>Financial Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>421</td>
<td>0.50</td>
<td>0.20</td>
</tr>
</tbody>
</table>

5 DISCUSSION

Only two (educational level, urban area) of the five demographic variables (academic level, gender, marital status, place, and age) results coincided with the referenced studies about stock market literacy presented in the literature review.

The females don’t obtain lower levels of stock market literacy than men, like the studies exposed in the literature review [19] [20] [21]. By age, the persons between 23 and 24 years old obtained better results of stock market literacy than people over 36 years old, different finding to the study from Kawamura et al. [25].

Contrasting the results of Kiliyanni and Sivaraman, married people don’t have a higher score of stock market literacy, and the divorced people obtained better stock market literacy scores [23].

The higher stock market literacy scores for master’s graduates joined the previous findings with higher educational attainment results [9] [18].

Finally, households in urban areas obtained higher stock market literacy scores than rural areas, as Santoso et al. pointed out [24].

6 CONCLUSIONS

According to the sample study of the most educated people, Ecuador is at a disadvantage regarding financial stock market decisions. The stock market literacy level of the students and graduates of the fourth educational level by demographic variables (academic rank, gender, marital status, area, and age) described and evaluated, expressing the evident lack of stock market literacy in Ecuador. On average, the young professionals obtain a stock market literacy score of 0.57, less than the minimum score of 0.60 defined by the OECD. The individual choices by each of the Ecuadorian families eventually affect the development of the stock market and the economic development country associated with it [33].

In addition, master’s graduates and people with housing in urban areas have higher levels of stock market literacy. Married people did not obtain a score better in stock market literacy than single people, and the male gender did not get a better stock market literacy score than the female gender. Finally, persons who are between 23 and 24 years old obtained better results than the persons who are over 24 years old. The level of stock market literacy does not increase with age.

6.1 Contributions

This study brings an essential milestone of the Ecuadorian reality since it is the first study to evaluate stock market literacy as a subsection of financial literacy of young professionals in Ecuador. In this sense, this study evaluates the Ecuadorian stock market literacy to future researchers interested in addressing this problem of great importance for the economic and financial sector and the inhabitants of Ecuador overall.

6.2 Limitations

As the data collected is from a single institution, the ESPOL Polytechnic University, there is the possibility of bias in the resolution of the data, given the greater reception of responses from Guayaquil City Guayas province, where this institution works.

ACKNOWLEDGMENTS

Many thanks to the fourth educational level of ESPOL Polytechnic University in 2019 for the time offered to construct the data of this critical study. His contribution to this research is undoubtedly precious; they are the ones who indirectly help to build a better future for Ecuador.

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