Financial Literacy and Risk Aversion of University Students: Study Applied to Lusófona University Students

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Abstract: Over the past few years, the number of young people who choose to invest their savings in the financial markets has increased – investments such as savings accounts and treasury bonds where there is a guarantee of return on invested capital. They also invest in stocks, options, futures, swaps, bitcoins, among other financial products with different levels of risk. For investments to be made with relative safety, an adequate level of financial literacy is essential. Related to the concept of financial literacy is the concept of risk. In this study, a questionnaire was applied, and it had a dual purpose: to measure the level of financial literacy and measure the degree of financial risk aversion. The questionnaire was applied to students of the business management course at the Lusófona University; most respondents have financial knowledge and are not risk averse, which can be attributed to their area of study.

1. INTRODUCTION

Portuguese society has lived with the stock exchange for several decades, but the relationship between citizens and the capital market continues to be far from what would be desirable in an open and developed market economy.

In recent years, the number of private investors who choose to invest part of their savings on the stock market has increased. Within these investors we can find young people who decide to invest, even before their financial life is stabilized. On the stock exchange comes the possibility of making money quickly.

But investments are not without risk and there is a set of concepts that must be learned: risk profile, investment, diversification, volatility and capital gains or losses. These are the best words to understand the stock market. But, to enter this world of constant ups and downs, it is necessary to understand how it works.

Mastering the literature is another step to take at the beginning: stocks, bonds, investment funds, volatility, dividends, commodities are also important concepts when making decisions in the securities market.

For decisions to be made in conscience, it is necessary to guarantee the necessary knowledge to make informed decisions. Thus emerges the unavoidable importance of the concept of financial literacy. In addition to being essential to ensure that financial knowledge begins to be learned

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from an early age, it is equally important to make investors aware that inherent in profit there is a risk. In this way, each investor has its own risk profile and is willing to accept greater or lesser losses in its investments. It is therefore essential to understand the level of financial knowledge of young Portuguese people and their risk profile. Thus, the main objective of this study is to assess the knowledge and profile of financial investors, seeking to determine which characteristics are related to the levels of knowledge and types of profiles.

2. THEORETICAL FRAMEWORK

The year 2020 brought great challenges to the financial market. Those who already invested saw a lot of fluctuation in returns. Several applications that were growing, dropped considerably, which made many investors apprehensive. And those who did not invest yet were more intimidated. In this volatile scenario, it is natural that we are afraid to invest in more “risky” applications, as they are less predictable. Understanding this concern as risk aversion – it is a concept from Behavioral Economics that shows how the pain of losing is, on average, twice as powerful as the pleasure of winning. Because of this, it is very important to have financial education, stay informed about the financial market and evaluate applications well. Not only to learn to manage your daily expenses, but also to better deal with these emotional issues related to money. With adequate knowledge, it is possible to reduce natural risk aversion and choose variable applications that bring a good financial return.

2.1. Financial Literacy

In October 2020 the OECD approved the Recommendation on Financial Literacy (“OECD Recommendation of the Council on Financial Literacy”), which includes a set of principles and recommendations in three areas: designing national financial education strategies, development of financial education programs in specific areas, such as savings, investment, pension plans, credit, and insurance, also implementation of national strategies and financial education programs. In this recommendation, the OECD (2020) considers that financial literacy and inclusion, together with adequate regulation and consumer protection, are essential to increase the population’s financial resilience and well-being.

According to the OECD (OECD, 2009), financial education can be defined as the process in which the individual makes conscious choices and remains well-informed about the economy to develop the best way to handle his money. That is, knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply that knowledge and understanding to make effective decisions in diverse financial contexts, improve the financial well-being of individuals and society, and enable participation in economic life (OECD, 2020).

Also, according to the OECD (2020), financial education can bring benefits to people of different income levels, which can become a financial budget planning tool to have better control of their expenses. Another advantage is retirement planning for older people and supporting them in making better investment decisions. According to some authors financial education provide an intelligent and healthy mindset about money, knowing how to earn, spend, save, invest, and donate money (e.g., Peretti, 2008 and Huston, 2010).

As highlighted by some authors the results of the research developed showed evidence that financial knowledge is important in indebtedness, investment, and risk tolerance decisions. Pos-
itive affective emotions showed a positive relationship with risk tolerance. On the other hand, negative effectiveness emotions suggest greater caution when investing, leading people to traditional investments such as savings and capitalization bonds. (Awais, Rasheed, Fahad Laber & Khursheed, 2016)

2.2. Risk Aversion

Financial decisions are generally made in an environment of some uncertainty regarding the expected results. (Hibbert, Lawrence, & Prakash, 2013)

Inherent in financial investments is the uncertainty expressed by the risk associated with the investments. In other words, the risk is greater the greater the level of uncertainty associated with the investment (Aydemir & Aren, 2017).

As highlighted by the Comissão de Mercados de Valores Mobiliários (CMVM), before investing, a wide range of aspects must be considered, such as: decide how much to invest, for how long and what capital you are willing to risk losing; check whether there is a guarantee of the invested capital; not investing money, you might need for essential expenses; if the money you intend to invest is destined for an emergency, it should not be invested in products that cannot be redeemed at any time (without loss of value or excessive costs); bear in mind that the profitability of products may not be guaranteed; compare the various investment alternatives on the market and the costs incurred.

As the OECD highlighted in the “OECD Recommendation of the Council on Financial Literacy”, the Portuguese Securities Market Commission is also concerned with making investors aware of the existence of risk. The risk that, according to Junior, Rigo and Cherobim (2005), can be defined as the possibility of financial loss, that is, the variability of the return associated with a given financial asset. This is uncertainty that corresponds to the doubt of obtaining a result, without a way to quantify the possibilities of positive or negative situations occurring. How much risk one will assume depends on the expected return, and it is expected that financial assets that present a greater possibility of profitability also present a higher level of risk (Sapienza, Zingales, & Maestripieri, 2009).

According to the Portuguese Securities Market Commission (2012), the main risks associated with investing in financial instruments are: Market risk: possibility of the evolution of the product’s price on the market affecting the amount receivable by the investor; Credit risk: possibility of the issuer of the product failing to pay the income or initial capital of the product; Foreign exchange risk: possibility of the currency in which the product was issued devaluing against the currency of the investor’s country; Liquidity risk: impossibility of redeeming the product at any time and recovering the corresponding amount or proceeding with its sale at a fair price; Fiscal risk: possibility of aggravation of the income or capital gains taxation regime; Political risk: possibility of devaluation arising from the political circumstances of the issuer’s State of origin; Risk of conflict of interest: possibility of your interests being subordinated to the interests of the issuer and/or the interests of the intermediary offering you the product.

In global terms, it is of interest to quantify the risk the investor is subject to, and as mentioned by Ross, Westerfield, Jaffe & Lamb (2015) the measurement of risk is made through standard deviation and variance. And according to these authors, the total risk of financial asset results
from two components of different nature: Systematic risk: a systematic risk is any risk that influences many assets, each to a greater or lesser degree. This type of risk affects all investments and cannot be eliminated; Unsystematic (specific) risk: it is a risk that affects a single asset, or a reduced number of assets. This type of risk can be reduced by diversifying the investment portfolio.

Financial risk tolerance is the maximum amount of uncertainty one must accept when making a financial decision, and different investors may have different tolerance levels. (Hibbert et al., 2013)

The risk aversion theory is the study of the behavior of investors when subjected to situations of uncertainty. It is based on the analysis of people’s behavior to understand how they act in the face of risks in the field of finance (Dewi & Barlian, 2020).

According to the CMVM (2012), the risk profiles consider several investor characteristics: The greater or lesser aversion to the risk of loss of invested capital; the preference for a short or medium- and long-term application; the level and fluctuations of expected profitability resulting from previous choices.

Also, according to CMVM (2012) there is no harmonized classification of investor profiles among financial institutions that act as financial intermediaries. However, the most common designations for the different types of investors are: Conservative or prudent: This is an investor looking for products with the guarantee of invested capital and returns that he expects to be at least compatible with short-term interest rates. This investor is averse to the main risks: capital, income, and liquidity. It prefers guaranteed capital investments, with a shorter maturity, which may be associated with a lower return. As the name suggests, investors with a conservative profile are more cautious, seek capital stability and are more risk averse, that is, they prefer to invest their money in products that do not present any or low risk. In general, we can say that the conservative investor looks for concrete gains with the least possible risk, even if for that he has a low return. Typically, your investment portfolio is made up of fixed income assets and only a small portion of stocks or alternative products. The distribution of their assets is focused more on bonds than on shares, to make a return on capital and expect a return superior to traditional banking applications. BNI Bank (2020); Balanced or moderate: This is an investor who is looking for products with the guarantee of the invested capital, but who is willing to take a longer period for this investment to accommodate any possible adverse fluctuation in income. It assumes a preference for guaranteed capital investments but accepts their portfolio maintenance in the medium term. We can say that the moderate profile investor tolerates taking a medium risk in their investments to obtain a higher return – they are willing to take a little higher risk to have a higher return. But at the same time, it doesn’t do without some security. He invests across multiple asset classes, currencies, and geographies to strike a balance between security and profitability. In other words, he is not completely risk averse and accepts to take part of it to earn more, but he is also concerned about safety. Its classic asset distribution is 50% bonds and 50% shares, they aim to increase their capital and higher profitability than products with medium/long-term interest rates. BNI Bank (2020); Dynamic: This is an investor who seeks a return higher than the market average, being available for medium- and long-term investments and to assume the risk of some losses in the invested capital; Aggressive or Bold: This is an investor who seeks products with a higher return when compared to the market average, being available for applications with a relatively shorter time horizon and assuming the risk of total
or even greater loss of invested capital. Aggressive or bold investors are willing to expose their portfolio to greater risk and accept market fluctuations to have greater profitability – and even consider losing part of their equity in investments. In an investment portfolio, most of its applications are in variable rate products – stocks, stock funds, options, among others. Their asset distribution typically stands at 30% bonds and 70% shares, and they aim for returns like that of the stock market. BNI Bank (2020)

3. METHODOLOGY

This study was carried out through questionnaires, using Google Forms, the questionnaires were sent to students from School of Economics and Management (ECEO) from Lusófona University (ULHT), between October 8th and December 22th, 2021. The target population was students from ECEO attending a graduation’s, master’s or post-graduation degree. Most questions are closed-response, some are multiple-choice and 2 are open-ended. Not all of them will be analyzed in this text due to space limitations.

To analyze financial knowledge, questions were asked such as: “Suppose that 5 brothers receive 1000 euros and that this amount is distributed equally among all. How much money does each one have?”; “Suppose now that the 5 brothers have to wait a year to receive their share of 1000 euros”; If the inflation rate is 2%, in 1 year will they be able to buy more, less or the same?”; “If you lend 25 euros to a friend and he pays you 25 euros back the next day, how much interest did he pay?”; “Suppose you put €100 on a term deposit with an annual interest rate of 2%. How much will you have in the account after one year? (Consider that no commissions or taxes are charged)”; “Suppose you put €100 on a term deposit with an annual interest rate of 2%. How much will be in the account after 5 years? (Consider that no commissions or taxes are charged and that at the end of each year, you let the interest amount stay in the same term deposit)”, etc.

To analyze the degree of financial risk aversion, questions such as the following were asked: “What attitude best describes your behavior towards investments in financial products?”; “As a general rule, what would you do in the event of a sharp drop in the price of a security you held?”; “What are the reasons that lead you to a concrete investment decision in securities?”, etc.

4. SAMPLE CHARACTERIZATION

A total of 1257 valid responses were obtained, corresponding to 85.15% of the target population. Respondents are 55.6% are male and 44.4% female; 81.7% are aged between 18 to 24 years, the rest are 25 years old or older (distributed by intervals as you can see in the Figure 1).

The majority of the respondents are attending graduate studies. Professionally, 62.5% only study, 31.5% study and work, the remaining 6% are unemployed or retired.

Questioned about “Who is responsible for making day-to-day decisions about money in your household?” 30.6% “Make decisions alone”, 25.1% “Decisions are made by someone else”, 21.1% “Make decisions together with someone other than a spouse/partner” and “29.2% “Make decisions together with your spouse/partner”.

Concerning the gross income of families, 39.9% are between €1000 and €2500, 30 % between €500 and €1000, 26.2% above €2500 and the rest up to €500.
5. ANALYSIS OF RESULTS

Concerning the results about “Analyze financial knowledge” on average 30% of respondents reveal to have insufficient knowledge while the remaining 70% reveal to have sufficient to very good financial knowledge, concerning the “Profile of financial risk” (as described in section 1) 24,1% of the respondents have a conservative profile, 39,5% have a moderate profile and 36,4% have a dynamic or aggressive profile as can be seen in Figure 2.

As written in the introduction, the main objective of this study is to assess the knowledge and profile of financial investors, seeking to determine which characteristics are related to the levels of knowledge and types of profiles.

Non parametric tests of independence were done based on contingency tables and the $\chi^2$-test, by gender, by professional status (work vs don’t work), by who is responsible for making day-to-day decisions about household money, and by the gross income of families, concerning financial knowledge and financial risk; the age will not be taken in consideration since 81,7 of the respondents are aged between 18 to 24 years.

Considering a level of significance $\alpha=0.05$ and “Financial Knowledge”:

- The hypothesis that Financial Knowledge is independent of gender is not rejected;
- The hypothesis that Financial Knowledge is independent of the professional status is rejected;
- The hypothesis that Financial Knowledge is independent of who is responsible for making day-to-day decisions about money in the household is rejected;
- The hypothesis that Financial Knowledge is independent of the gross income of families is rejected.
Considering a level of significance $\alpha=0.05$ and “Financial Risk”:
- The hypothesis that the Financial Risk is independent of gender is rejected;
- The hypothesis that the Financial Risk is independent of the professional status is not rejected;
- The hypothesis that the Financial Risk is independent of who is responsible for making day-to-day decisions about money in the household is not rejected;
- The hypothesis that the Financial Risk is independent of the gross income of families is not rejected.

6. FUTURE RESEARCH DIRECTIONS

The authors intend to extend this study to the more relevant Portuguese universities, in order to analyze if there are differences in the level of financial knowledge and propensity to take financial risks by public and private universities and also by area of study.

7. CONCLUSION

It can be concluded that in this study most respondents have the financial knowledge and are not risk averse, which can be attributed to their area of study. There is no independence on financial knowledge between gender, but there is in relation to risk aversion – female individuals are more risk averse than males. As for whether they work or not, there is no independence in relation to financial knowledge, but there is a relationship between risk aversion; the same goes for who is responsible for making day-to-day decisions about money in the household and the gross income of families. The results obtained make sense for the sample surveyed.

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REFERENCES


