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# Financial literacy among Mexican high school teenagers

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ABSTRACT

Financial literacy has become an increasingly important ability in today's complex world. Young people are among the least financially literate demographic groups. In this paper we present the results of a financial literacy survey conducted among high school students in Mexico City, the first effort to measure financial literacy among teenagers in Mexico. The survey is based upon the instruments developed by OECD and Lusardi and Mitchell's approach. Our results show low levels of financial literacy: 60% of the students surveyed understood the concept of inflation, 34.1% correctly answered the question about risk diversification, and only 31.7% correctly answered the question about compound interest. The OECD questions showed that less than 1 in 5 students understands basic financial concepts, around 57% get high scores on financial behavior, and about 70% have positive financial attitudes. We did not find generalized gender differences, though women score a bit higher on the OECD measure mostly due to a better financial behavior. We also did not find differences between private and public schools, or by household income.


## 1. Introduction

In recent years, many countries have become increasingly concerned about the low levels of financial literacy among their inhabitants. The central idea is that the financial world has become more complex, and the average citizen is less able to face these changes and make optimal decisions due to the lack of tools and knowledge of basic financial concepts. This can lead to errors when making key economic and financial decisions that they must face over the course of their lives. For example, reforms to pensions systems that replace pay-as-you-go systems with defined-contribution systems and individual accounts require workers to make more decisions demanding a more thorough knowledge of concepts like compound interest rates, inflation or risk. However, this affects not only affiliates of these programs, but any other individual that must save for retirement. Meanwhile, the increasing development of financial systems and financial inclusion policies have made a wide range of financial instruments available to more members of the population – payroll cards, credit cards, savings accounts and other more sophisticated products. Those concerns grew during the recent global financial crisis, and some studies suggest that low financial literacy was one of the factors that caused many individuals to make wrong decisions.

The standard economic model assumes that all individuals have this information and will make the right decisions. Nonetheless, recent literature shows the opposite (Lusardi and Mitchell, 2007a,b, 2011a,b; Behrman et al., 2010). Lusardi and

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Mitchell (2011b) also stress that financial illiteracy is greater among young people and the elderly. In general, these individuals are financially less sophisticated. Although there is a positive correlation between financial education and education in general, even among highly educated individuals we can find low levels of financial knowledge. Particularly in recent years, policymakers have identified a need to financially educate young people starting in high school. This is the age at which they begin interacting with the financial world, which in the Mexican case may mean joining the labor force and the financial decisions that entails. In a number of countries this topic is included in the basic core curriculum. More importantly, starting in 2012 the Organization for Economic Cooperation and Development (OECD) decided to include a fourth module testing financial literacy in its Program for International Student Assessment (PISA) standardized test.[1]

In this context, and following the OECD's methodological and conceptual approach, as part of a larger project on "Financial Literacy and Savings" we decided to study levels of financial literacy among Mexican high school students between the ages of 15 and 18. For this purpose, we designed a survey using the OECD methodology and Lusardi and Mitchell's questions, which we applied to high school students in Mexico City and the State of Mexico. Our aim in this paper is to explain the survey's design, and present and discuss the main findings from this survey.

The remainder of the paper is organized as follows. Section 2 further motivates the importance of financial literacy among young people. Section 3 explains how the literature has measured financial literacy. Section 4 explains our survey's design. Section 5 presents the survey results in a descriptive manner, whereas Section 6 provides a simple econometric analysis. Finally Section 7 concludes and discusses some recommendations for future research.

## 2. The importance of financial literacy among young people

As mentioned previously, there is a substantial amount of recent literature discussing and documenting the low level of financial literacy prevailing in some countries. However, most of these studies have been conducted in the United States (Lusardi and Mitchell, 2007a, 2007b, 2011a, 2011b; Berhman, Mitchell, Soo and Bravo, 2010). With regards to financial literacy among young people, Bernheim et al. (1997) have shown that American students who graduate in states that mandate personal finance courses to high school students are more financially educated and make better decisions than graduates in states that do not have such requirements. Similarly, Lusardi et al. (2009) conducted a survey of financial literacy among 23–28 year olds in the United States and found that 80% of respondents were able to calculate compound interest rates, 54% understood the concept of inflation, and 47% were familiar with the concept of risk diversification. These authors argue that financial education courses should be given to young people before they enter university, since it is during their college years that they make their first transcendent financial decisions, such as taking student loans, apartment rentals, or cell phone contracts.

Chen and Volpe (1998) conducted a survey of 924 American college students relating a point score obtained in financial education with socioeconomic characteristics of the students, such as gender, race, major, and school year. These authors conclude that black women in non-business majors and in their first year of college are the sub-group most likely to have a low level of financial literacy. Jorgensen and Savla (2010) conducted a College Student Financial Literacy Survey of 420 respondents and found that financial literacy or aptitude for young people is affected significantly not only by socioeconomic factors, but also by financial situations. The study incorporated questions about the perceived influence of their parents on their financial education, attitude and behavior, an element that is considered to influence 17% of their financial knowledge. A similar result was found in Hong (2004). Manski (1993) and Carrell et al. (2008) studied financial literacy contagion among young people within a common peer group or classroom and found significant effects.

In this context, the OECD agenda places significant weight on the study and promotion of financial literacy among high school students. This organization argues that financial literacy will be increasingly considered an essential life skill in the future, and that it is best to educate young people as early as possible. Youth will face not only increasingly complex financial products, services and markets, but are more likely to face higher risks than their parents (FEG, 2012). The need to measure financial literacy levels led the OECD to conduct a pilot study for the adult population (Atkinson and Messy, 2012; OECD INFE, 2011). However, in order to focus on young people under the age of 18, the OECD decided to include a module in the PISA international exam regarding financial literacy to better capture teenagers' knowledge and skills in this area. This module was included in 2012, although each country voluntarily decided whether to adopt it. Mexico, nevertheless, was not one of the countries that decided to apply this module. This being the case, our study aims to fill this gap in our knowledge and, thus, measure the level of financial literacy in Mexican teenagers using a survey that replicates some of the concepts included in the OECD and PISA methodology.

## 3. Definition and measurement of financial literacy

One of the first attempts to define financial literacy can be found in the Jump$tart Coalition for Personal Financial Literacy in 1997, which asserts that financial literacy is the ability to use knowledge and skills to administer financial resources securely and effectively throughout one's lifetime (Hastings et al., 2012). In this paper, however, we want to highlight two alternative yet not necessarily exclusive definitions, which are relevant to measure the effort made in various countries in

[1] Mexico has not yet decided to adopt this new module.