

HOW FINANCIAL LITERACY AND IMPATIENCE SHAPE RETIREMENT WEALTH AND INVESTMENT BEHAVIORS

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Research and policy interest is increasingly focused on the links between financial literacy and household saving, seeking to explain why consumers seem to undersave for retirement, take on too much debt, make poor mortgage decisions, and experience other problems in the modern financial environment.¹ This paper explores two explanations for why consumers fail to optimize their financial decision making. One is that people suffer from financial illiteracy (Lusardi and Mitchell 2007a,b, 2008; Hastings and Tejada-Ashton 2008). This argument contends that many people lack the knowledge of key economic concepts and skills needed to make financial computations, which may cause them to make suboptimal financial decisions. A second explanation is that people are impatient or “present-biased,” which implies that they chose current gratification over future, higher payoffs (Ashraf et al. 2006; Rabin and O’Donahue, 1999), and thus persistently underinvest for their future.

This paper uses experimental evidence derived from the 2009 Chilean Encuesta de Protección Social (EPS or Social Protection Survey) to evaluate how financial literacy and impatience predict saving and investment decisions. The EPS is similar to the US Health and Retirement Study, and it is a nationally representative panel of respondents, followed every two years, which is fielded by the University of Chile’s Microdata Center in cooperation with the University of Pennsylvania (c.f. Arenas et al. 2008; Mitchell et al. 2008).² The survey collects responses to questions covering labor, income, education, health care use, savings and retirement decisions, as well as knowledge and understanding of the privatized Social Security program in Chile.

Within the EPS, we administered a battery of financial literacy questions (developed by Lusardi and Mitchell, 2007a,b) from which we develop a literacy index which can be used as a predictor of retirement saving and other key outcomes. In addition, we designed and implemented a pair of experiments providing the opportunity to measure respondent impatience and respondent ability to carry out expressed intentions regarding financial behaviors, which we then link to outcomes of interest.

We use our first experiment to examine whether financial literacy affects how consumers understand financial terminology such as pension fund management fees and interest rates (following Hastings and Tejada-Ashton, 2008). We randomly provide information to individuals on the pension fund menu in expected pension fund *gains* versus pension fund *costs* over a 10-year period. The formats were randomly assigned to EPS respondents, who were then asked to analyze the information and indicate to the interviewer their ranking of the funds on the menu as first, second, and third best, based on the information provided. We then use the financial literacy index discussed above to test whether the financially literate respondents are more able to rank funds based on fundamentals and less influenced by how the pension information is framed.

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In a second experiment, we investigate whether people subject to impatience — that is, those who overweight current consumption versus the future — are also those who make short-sighted investment decisions. To test this hypothesis, at the end of the survey, each EPS participant was asked to play an “Investment Game” for a gift card. In return for filling out a short consumption questionnaire, the interviewer gave each participant a gift card to be used at the largest grocery chain in the nation. If the respondent completed the short questionnaire right away (‘Now’), he would immediately receive a 5,000 peso gift card (about US\$8); alternatively he could elect to do so ‘Later’ — i.e., fill out the questionnaire and mail it back in a pre-paid, addressed envelope within four weeks — at which time the gift card is activated with a higher amount. This higher amount was randomized between 6,000–8,000 pesos in 500 peso increments, so respondents who delayed would receive a 20–60 percent return if they delayed receipt (by up to four weeks). The experiment permits us to identify three different types of respondents: the *impatient* who took the lower gift-card amount immediately, the *efficacious deferrers* who chose the later amount and returned the survey for the higher amount, and the *inefficacious deferrers* who opted for the later higher amount but then failed to send in the questionnaire so as to activate their cards. This provides a real-world decision measure of ability to delay current gratification for future gains, as well as evidence on peoples’ ability to follow through on a plan with financial implications. Then we can determine whether respondents who choose *Now* at a cost of more money *Later* are also those who are unable to save for retirement and less likely to invest in their health.

Our results show that our measure of impatience is a strong predictor of retirement saving and investment in health, using a variety of measures of savings for retirement and investment in preventive health care. Financial literacy is also correlated with accumulated retirement saving though it appears to be a weaker predictor of sensitivity to framing in investment decisions. These results have implications for policymakers interested in enhancing retirement well-being through addressing shortcomings in behavior and economic decision making that may hinder planning, decision making and investments for long-run financial and physical health.

¹ See for instance Duarte and Hastings (2010), Abaluck and Gruber (2009), Ausubul (1991), Benartzi and Thaler (2001), Choi et al. (2006, 2007), Cronqvist and Thaler (2004); Hilgert et al (2003); Kling et al. (2008); Lusardi and Mitchell (2008, 2009, 2010); Lusardi and Tufano (2008); Madrian and Shea (2001); Ponce Rodriguez (2008); and Sirri and Tufano (1998).

² An earlier version of part of this discussion appears in Hastings, Mitchell, and Chyn (2010).

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