

The importance of financial literacy

How much do individuals know?

Individuals are increasingly in charge of securing their own financial well-being after retirement. With the shift from defined benefit to defined contribution pensions, today's workers have to decide both how much to save and how to allocate their retirement wealth. Financial markets have become more complex and individuals are faced with a proliferation of new investment products, many of which are new and often fairly complex. Investment opportunities have expanded beyond national borders, permitting individuals to invest in a broad range of assets and currencies. However, as the financial crisis has made it clear, it is very hard to navigate this new financial system and the consequences of mistakes can be devastating. But how well equipped are individuals to make financial decisions, and how much do individuals know about economics and finance?

Very few data sets provide information about financial literacy and those that do often do not have any information about saving and financial decision-making. To address these questions, Olivia Mitchell and I designed a module on financial literacy for the Health and Retirement Study (HRS), a survey that provides information on people who are 50 and older.¹ We aimed to assess knowledge of basic concepts that lay at the basis of saving and portfolio-choice decisions, such as interest compounding, inflation, and risk diversification. Results from that initial module were striking: only one-third of respondents could do simple interest rate calculations and appeared to understand the effects of inflation and the workings of risk diversification. What is surprising is not that people lack financial knowledge, but how little people know about basic economic concepts. Financial illiteracy is not only widespread but is particularly severe in certain demographic groups. Two groups that stand out from our analysis are the elderly and women; both of them display very low knowledge.²

These findings are not unique to this survey or to this particular age group. We have confirmed these findings using different data sets, different methods of data collection, and different age groups. For example, we find low rates of numeracy among younger individuals (Early Baby Boomers)³ and in the entire U.S. population.⁴ Moreover, such results are not limited to the United States. With several co-authors, I examined financial literacy in the Netherlands using the same questions that I used in the U.S. HRS.⁵ Like American households, Dutch households also exhibit fairly low levels of financial knowledge.⁶

Together with Peter Tufano, I have also assessed financial knowledge that is specifically related to debt, namely *debt literacy*.⁷ Our aim was to assess respondents' knowledge of the workings of interest compounding and credit cards and their ability to compare borrowing options and to choose those with the lower rates. Even though most individuals deal frequently with credit cards and other forms of borrowing, we found that

only a minority of individuals in the United States possess basic financial knowledge relating to debt. For example, only a third of respondents in a representative sample of the U.S. population know they cannot eliminate credit card debt by paying a minimum amount equivalent to the interest payments. In this survey we were able to go one step further in our analysis of financial knowledge and to compare *actual* financial knowledge (as determined by responses to our debt literacy questions) to *self-assessed* knowledge, which was determined by asking respondents to rate their own financial knowledge. In stark contrast to responses to the questions measuring actual knowledge, the majority of individuals give themselves high knowledge ratings, pointing to a gulf between how much people actually know and how much they think they know. Two other findings stand out in our analysis: We find that women display low debt literacy, based on responses to our questions measuring actual financial knowledge, and they give themselves low ratings when assessing their own financial knowledge. In contrast, elderly respondents rank the lowest in terms of actual financial knowledge but the highest in terms of self-assessed knowledge. This may explain the prevalence of financial scams perpetrated against the elderly.

Does financial knowledge matter?

Even with little personal knowledge, individuals can avoid making financial mistakes by consulting with more knowledgeable individuals, including financial professionals. It is not enough to recognize that financial knowledge is low; we must also understand whether financial literacy matters in decision-making. Addressing this question is particularly difficult because financial literacy is not distributed randomly in the population: those who possess high levels of literacy are likely to possess characteristics, such as high talents and ability, or patience, which are also correlated with financial decision-making. Moreover, individuals may choose to invest in gaining financial knowledge; thus financial literacy can itself be a choice variable and it may be those who have high wealth, rich pensions, or investments in financial markets who care more about improving their financial knowledge.

In my work, I have examined a set of outcomes that are related to wealth accumulation. In many of my papers, I have documented that significant numbers of workers do not plan for retirement, even when they are not far away from it.⁸ Yet planning for retirement pays off: planners end up with double the amount of wealth of non-planners. Retirement planning data represents an easy and direct way to test the predictions of a simple version of the life-cycle model. According to this model, people should be forward-looking: they should look ahead, anticipate the drop in income after retirement, and calculate how much they need to save in order to maintain a constant stream of consumption over their lifetime. However, these calculations are not easy. They require the ability to make projections about future variables (such as income growth, inflation, and pension benefits) as well as the ability to take present discounted values. In my work, I have examined whether individuals do make these calculations and whether financial literacy affects their ability to do so.

In the module we designed for the 2004 HRS, Olivia Mitchell and I added a question that asked whether individuals had ever tried to calculate how much they need to save for retirement. While respondents to the HRS are only five to ten years away from retirement, approximately 30 percent had calculated how much they needed to save. Moreover, we found a strong link between retirement planning behavior and financial literacy: it is disproportionately those who can make interest rate calculations and who possess some sophisticated knowledge who reported having calculated how much they need to save for retirement. However, as mentioned above, one cannot rule out the possibility that it is the desire to plan for retirement that results in individuals making an effort to increase their financial knowledge, rather than financial knowledge causing individuals to plan for retirement.

To be able to disentangle this nexus of causality, we re-examined the link between financial literacy and planning in another paper in which we use data from the Rand American Life Panel, a survey in which we have been able to insert the same questions that we designed for the HRS.⁹ In that paper, we use the fact that several U.S. states mandated financial literacy education in high school to measure respondents' exogenous exposure to financial education. The decision to mandate financial education is mostly the result of a political process. Moreover, states differed in what they mandated and the year the mandate went into effect. We also considered the amount of resources that were devoted to education across states, as mandates can be ineffective if little resources are allocated to training teachers and implementing new courses. We found that individuals who were born in states that mandated financial education in high school were more likely to display higher financial knowledge later in life. Moreover, we found that respondents who received their education in states that not only mandated financial education but that had higher per pupil education spending had higher levels of financial knowledge. Most importantly, after instrumenting financial literacy with mandates across states interacted with the amount of education expenses per pupil, we found a strong positive relationship between financial literacy and retirement planning, even stronger than the simple estimates using HRS data. This finding is consistent with another important paper in this area of research: Berhneim, Garrett, and Maki (2001) showed that individuals who were exposed to financial education in high school had higher savings later in life.¹⁰ Given that retirement planning is a powerful proxy for wealth, there is now a body of evidence supporting the effects of financial literacy on wealth holdings.

In the debt literacy paper, I demonstrated that debt literacy can be linked to a variety of financial experiences, from borrowing on credit cards to using payday lending or pawn shops to investing in stocks and mutual funds or simply having a checking account. That paper emphasizes the fact that individuals make many financial decisions and that these decisions are highly interrelated. For example, those who always pay credit card bills in full are less likely to use other high-cost means of borrowing, such as payday loans. Conversely, those who only pay the minimum amount due on their credit cards are more likely to use other costly forms of borrowing. This means that financial literacy can have an effect above and beyond the single financial decision-making variable—e.g., wealth accumulation, participation in the stock market, having a checking account—that we normally study when assessing the impact of financial literacy on behavior. Thus, to fully

capture the effect of literacy on financial behavior, it is important to look at a rich set of financial experiences.

How to increase the effectiveness of financial education

Having shown that financial literacy is very low and that financial literacy has an impact on financial behavior, we naturally arrive at the question regarding what can be done to improve financial knowledge and which programs can improve saving and wealth accumulation. This is the topic I pursued in my newly published book, *Overcoming the Saving Slump. How to Increase the Effectiveness of Financial Education and Saving Programs* (University of Chicago Press, 2008). There are two ideal venues for the delivery of financial education: schools and the workplace. The book gives an overview of financial knowledge among high school students and shows that it is not only the adult population but also the young who lack basic financial knowledge. Given the benefits that financial literacy brings, there may be advantages to introducing financial literacy into high school curricula. The book also offers an evaluation of employer-provided financial education programs. The evidence, so far, is mixed, but as the book argues, we cannot necessarily learn much from existing programs. Workplace programs commonly offer very limited interventions, such as a one-time retirement seminar or one benefit fair. It is hard to imagine that such interventions can do much to combat widespread financial illiteracy; a one-time, one-size-fits-all seminar can hardly be an adequate response to the problem of widespread financial illiteracy among U.S. workers. The book provides evidence that programs that offer multiple financial education sessions have been effective in stimulating saving among low income workers, who are normally those least likely to save. It also shows that women are particularly receptive to financial education programs. Given that women tend to display low levels of literacy, these findings are encouraging and call for programs to be targeted to the population groups that are most in need of improved financial literacy.

The book also shows that one way to promote saving is to facilitate and simplify the decision-making process, including helping workers implement saving plans. A recurrent result of financial education programs is that, although they seem to affect the intentions of workers, many of whom report plans to modify their saving or investment behavior after attending a seminar, these intentions do not always translate into actions. This provides some explanation for why retirement planning seems to have such a large effect on saving. As some psychologists have argued, devising a plan of action makes it more likely for individuals to follow through on intentions. If this mechanism is important, it may be possible to devise cost-effective ways to stimulate saving. The book describes a program that I have implemented at Dartmouth College in collaboration with a professor of marketing from the Tuck School of Business and the vice president for Finance and Administration at Dartmouth.¹¹ We provided new hires (non-faculty employees) with a planning aid. This is simply a double-sided sheet that describes the steps that new employees have to take to enroll in a supplementary retirement account (SRA). It also provides information that employees would otherwise have to collect in order to open an SRA. Thus, the planning aid simplifies decision-making, which can be particularly useful for those with low financial literacy. Having clear guidelines on what needs to be done in

order to open an SRA also makes it easier to translate intentions into actions. Finally, the program provides information when it is needed, i.e., when decisions about pensions have to be made. Preliminary evidence shows that this simple intervention doubled the enrollment into SRAs at Dartmouth. It also shows that, by recognizing the many difficulties that people face when making saving decisions—from limited financial literacy to barriers to implementing saving plans—we may hope to increase the effectiveness of financial education programs.

In a world of increased individual financial responsibility, where workers are in charge of their financial well-being and where financial markets offer new and complex financial products, we cannot afford to disregard financial literacy. Just as it has proven to be impossible to succeed in the modern world without the ability to read and write (literacy), so it will be impossible to succeed in the present-day financial system without knowing the abc's of economics and finance (financial literacy).

¹ See the review and discussion of these questions in A. Lusardi, "Financial Literacy: An Essential Tool for Informed Consumer Choice?" NBER Working Paper No 14084, June 2008.

² See A. Lusardi and O. Mitchell, "Planning and Financial Literacy: How Do Women Fare?" NBER Working Paper No 13750, January 2008, and *American Economic Review* 98(2), 2008, pp. 413-417.

³ See A. Lusardi and O. Mitchell, "Baby Boomer Retirement Security: the Roles of Planning, Financial Literacy and Housing Wealth," NBER Working Paper No 12585, October 2006, and *Journal of Monetary Economics* 54, 2007, pp. 205-224.

⁴ See A. Lusardi and O. Mitchell, "How Ordinary Consumers Make Complex Economic Decisions: Financial Literacy and Retirement Readiness," unpublished paper, March 2009.

⁵ See M. van Rooij, A. Lusardi and R. Alessie, "Financial Literacy and Stock Market Participation," NBER Working Paper No 13565, October 2007.

⁶ The questions we have designed for the U.S. HRS have now been added to several national surveys. In addition to the Dutch DNB Household Survey, they have been added to the German SAVE, the Italian Household Income and Wealth, the World Bank Russia Survey, a survey of pension providers in Mexico, and a survey of entrepreneurs in Sri Lanka. It is therefore possible to perform international comparisons.

⁷ See A. Lusardi and P. Tufano, "Debt Literacy, Financial Experiences, and Overindebtedness," NBER Working Paper No 14808, March 2009.

⁸ See A. Lusardi, "Household Saving Behavior: The Role of Financial Literacy, Information, and Financial Education Programs," NBER Working Paper No 13824, February 2008, and forthcoming in "Implications of Behavioral Economics for Economic Policy."

⁹ See A. Lusardi and O. Mitchell, "How Ordinary Consumers Make Complex Economic Decisions: Financial Literacy and Retirement Readiness," unpublished paper, March 2009.

¹⁰ D. Bernheim, D. Garrett, and D. Maki, "Education and Saving: The Long-term Effects of High School Financial Curriculum Mandates," *Journal of Public Economics* 85, 2001, 435-565.

¹¹ See A. Lusardi, P. Keller and A. Keller, "New Ways to Make People Save: A Social Marketing Approach," NBER Working Paper No 14715, February 2009 and chapter 7 of the book, "Overcoming the Saving Slump. How to Increase the Effectiveness of Financial Education and Saving Programs," University of Chicago Press, 2008, pp. 209-236.