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Financial Literacy and Financial Education: Review and Policy Implications

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Abstract: In recent years, as workers have gained an unprecedented degree of control over their pensions and savings, the importance of financial literacy and financial education has increased considerably. Large changes in the structure of financial markets, labor markets, and demographics in developed countries have led to this change. Consumers have a bewildering array of complex financial products – from reverse mortgages to annuities – to choose from, making saving decisions increasingly complex. Knowledge about the working of compound interest rates, the effects of inflation, and the working of financial markets is essential to make saving decisions.

Several initiatives have been undertaken to improve financial literacy. The Organization for Economic Co-Operation and Development (OECD) comprehensively defines financial education as “the process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being.” Building upon this definition, I provide a review of the current state of financial literacy and financial education programs, and discuss whether workers possess the financial literacy necessary to process information and formulate saving plans.

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1. Introduction

In recent years, as workers have gained an unprecedented degree of control over their pensions and savings, the importance of financial literacy and financial education has increased considerably. Large changes in the structure of financial markets, labor markets, and demographics in developed countries have led to this change. Consumers have a bewildering array of complex financial products – from reverse mortgages to annuities – to choose from, making saving decisions increasingly complex. Knowledge about the working of compound interest rates, the effects of inflation, and the working of financial markets is essential to make saving decisions.

Several initiatives have been undertaken to improve financial literacy. The Organization for Economic Co-Operation and Development (OECD) comprehensively defines *financial education* as “the process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being.”¹ Building upon this definition, I provide a review of the current state of financial literacy and financial education programs, and discuss whether workers possess the financial literacy necessary to process information and formulate saving plans.

¹ See OECD, 2005.

2. A Review of Financial Literacy

According to a survey conducted by Harris Interactive for the National Council on Economic Education (NCEE) in 2005, nearly all American adults believe “it is important to have a good understanding of economics.” However, the actual level of financial knowledge is lacking. Unfortunately, major surveys that cover the entire population and variables of interest (savings, investment choices, pension plans, etc.) usually do not have any data on financial literacy. However, surveys on small and selected groups offer some unpleasant findings. For example, the State of Washington sponsored a survey to assess financial literacy among its residents. Two groups were asked to participate: one group was representative of the general resident population and the other was composed of consumers (referred to as the “victim pool”) who had loans with a lender that settled with the State of Washington in a large predatory lending case. Both groups were exposed to a long list of questions aimed at measuring their financial knowledge (Moore, 2003).

Questions about financial instruments were the ones where respondents displayed the lowest amount of knowledge. Specifically, the majority of respondents in both groups had difficulties answering the questions aimed to measure knowledge of bonds prices; 57 percent of the general population and 67 percent of the victim pool did not know what happens to bond prices when interest rates go up. Knowledge of mutual funds was also lacking, as a large proportion of respondents did not know what a no-load mutual fund is or that mutual funds do not pay a guaranteed rate of return. More than 40 percent of the victim pool and 35 percent of the general population did not know that stocks gave the highest returns over a 40-year period. Most importantly, more than one third of the victim pool and one quarter of the general population did not know the workings of interest compounding. Knowledge of the basic principles of risk diversification were also lacking in both groups. This has important policy

implications, especially since the victim pool was composed of loan applicants, for whom this lack of knowledge seems particularly troublesome.

Similar findings are reported by Agnew and Szykman (2005), who devised a financial literacy survey as part of an experiment held at a mid-size public university in the Southeast. Questions in this survey were designed following the structure of the John Hancock Financial Services Defined Contribution Plan Survey. The original Hancock survey (2002) reported that many investors lack basic financial literacy. The large majority of respondents in this experiment (which included college employees, local tourists, parents of students, and local construction workers) displayed similar patterns. Participants knew little about the working of mutual funds; even the basic differences among stocks, bonds, and money market mutual funds were not well understood. Their research also confirms the findings of an earlier survey from the Employee Benefits Research Institute in 1996 that showed that only 55 percent of workers knew that U.S. government bonds have provided a lower rate of return averaged over the past 20 years than the U.S. stock market. Bernheim (1998) surveys several studies and shows too that workers display little financial literacy.

To gain better insight into these issues, Olivia Mitchell and Lusardi (2006a) devised and fielded a purpose-built module on planning and financial literacy for the 2004 Health and Retirement Study (HRS). The module includes questions that measure how workers make their saving decisions, how they collect the information for making these decisions, and, most importantly, whether they possess the financial literacy needed to make these decisions. Mitchell and Lusardi (2006a) find that only half of the respondents in the HRS correctly answer two simple questions regarding interest compounding and inflation, and only one-third correctly answer these two questions and a third question about risk diversification. In other words, financial illiteracy is widespread among older Americans.

Similar findings are reported among younger respondents, suggesting that financial literacy does not improve with age. The 2005 NCEE survey, which included high school students and working-age adults, found a general lack of knowledge of fundamental economic concepts amongst both groups. For adults, the average score was a C for their knowledge of economics; students fared worse, with an average score of F for their knowledge. Only one-third of adults and one in eleven students showed what would be considered a ‘good’ understanding of the concepts (getting a grade of A or B). The survey confirmed the findings of several studies from the Jump\$Start Coalition for Personal Financial Literacy, which surveys US high school students (Mandell, 2004)).

Financial illiteracy is particularly acute among some demographic groups. For example, Lusardi and Mitchell (2006a) show that Blacks and Hispanics, women, and those with low educational attainment are disproportionately more likely to lack basic financial knowledge.

2.1 Financial Literacy: International Evidence

Such findings on the general levels of financial literacy extend beyond the US: for instance, Miles (2004) shows that UK borrowers display poor understanding of mortgages and interest rates. A 2000 survey of Korean youth conducted by the Jump\$Start coalition showed that young Koreans fared no better than their American counterparts when tested on economics and finance knowledge, with most receiving a failing grade. Furthermore, a Japanese consumer finance survey showed that 71 percent of adult respondents had no knowledge of investment in equities and bonds and 57 percent had no knowledge of financial products in general.² Using SHARE surveys conducted in several European countries, Christelis, Jappelli, and Padula (2005) show that respondents generally score low on financial numeracy and literacy scales.

² See OECD (2005).

Financial illiteracy is particularly acute in some demographic groups. A 2003 survey conducted by the ANZ Banking Group in Australia found a correlation between low levels of financial literacy and low levels of education and income. A survey conducted by the Financial Services Authority in the UK found that younger people, those in low social classes, and those with lower incomes are the least sophisticated financial consumers. The Korean survey also shows a correlation between family income and education on students' performance on the financial literacy test (OECD, 2005).

Evidence from other surveys shows that survey respondents are often more confident in their performance than basic tests of financial literacy would warrant. The OECD reports that a 2003 survey conducted in Germany by Commerzbank AG found that 80 percent of respondents felt confident about their understanding of financial issues, while only 42 percent were able to correctly answer half of the pertinent survey questions (OECD, 2005). Similarly, while 67 percent of respondents in the Australian survey indicated that they had an understanding of the concept of interest compounding, only 28 percent were able to correctly answer a question testing that concept. Overconfidence in one's financial knowledge may be a deterrent to seeking out professional advice, widening the 'knowledge gap'.

3. Financial Education

Many employers, particularly those offering Defined Contributions (DC) pensions to their workers, have increasingly offered some form of financial education in the workplace. By providing information and improving financial literacy, seminars should reduce planning costs. If these factors play a role in saving decisions, the analysis of these programs provides a useful way to evaluate the effects of information and financial literacy on savings.

The evaluation of retirement seminars is no easy task. Since attending retirement seminars is largely voluntary, it is possible that those who attend seminars are more likely to have an interest in them (for example because they have large wealth holdings). Similarly, attending retirement seminars could simply proxy for individual characteristics such as patience and diligence, which are also likely to affect wealth accumulation. Finally, as reported by Bernheim and Garrett (2003), retirement education is often remedial and thus offered in firms where workers do little savings. Very few data sets have enough information to allow researchers to sort these effects out. Consequently, empirical results about the effects of retirement seminars have been rather mixed.³

The HRS offers a richness of information which may overcome some of the above shortcomings. Lusardi (2002, 2004) uses these data to try to disentangle the effects of retirement seminars on savings. If financial education is likely to be offered to workers who most need it, one might expect the effect to be stronger at the lower quartiles of the wealth distribution and among those with low education. The data bears this out: retirement seminars are found to have an effect in the lowest two quartiles of the wealth distribution in the total sample and across education groups. Estimated effects are sizable, particularly for the least wealthy; attending seminars appears to increase financial wealth by approximately 18 percent. This effect derives mainly from the bottom of the distribution, where wealth increased by more than 70 percent. The effect is also large for those with low education with increases in financial wealth close to 100 percent. The reason for such large percentage changes is that households at the bottom of the wealth distribution and those with low education have little financial net

³ See, among others, McCarthy and Turner (1996), Bernheim (1995, 1998), Bayer, Bernheim and Scholz (1996), Clark and Schieber (1998), Muller (2000), Clark and D'Ambrosio (2002), Clark, D'Ambrosio, McDermed and Sawant (2003) and Bernheim and Garrett (2003).

worth and increases of \$2000—the average change in wealth for those with low education that attend a retirement seminar—represent very large percentage increases (Lusardi, 2004).⁴

Another approach to evaluate the effects of financial education programs is to run experiments where a randomly chosen group of participants is exposed to education and their behavior is then compared to an otherwise similar group which was not exposed to the program. This is the approach taken by Duflo and Saez (2003). A random group of non-faculty employees at a large university were given financial incentives to participate in a benefit fair. Participation in pension plans and pension contributions of this group were then compared to those who were not induced to participate. According to the authors (Duflo and Saez, 2003 and 2004), the effects of this program were found to be mixed and overall pretty small. Attending the benefit fair induced more employees to participate in pension plans but the increase in contributions was negligible.

Other authors have argued that even after households become aware they should change their saving behavior via information sessions or other incentives, they fail to follow through on their realizations with their subsequent actions (Choi, Laibson, Madrian and Metrick (2004)). Thus, the fact that participants attend retirement seminars and state they would like to change their saving behavior, as reported for example by Clark and D'Ambrosio (2002) and Clark, D'Ambrosio, McDermed and Sawant (2003), does not necessarily mean that these programs are effective. In fact, Madrian and Shea (2001) show that after being exposed to financial education, many participants expressed plans to start contributing to pensions or to increase their contributions but, at least in the short-run, failed to do so.

4. Why Financial Literacy and Financial Education Matter: Policy Implications

⁴ Results for net worth are similar. See Lusardi (2004) for details.

If the findings reported in the previous sections are correct, one has to be very cautious in interpreting the effects of financial education on savings. Firstly, if financial illiteracy is widespread and individuals do not know how interest rates and inflation work, attending a benefit fair is unlikely to affect behavior. Similarly, a one-time exposure to financial education may do little to affect savings. This is not because financial education is ineffective but because the “cure is not adequate for the disease.” Moreover, the fact that individuals have difficulties following through on their planned actions is perhaps an argument for changing the design of financial education programs rather than dismissing their importance.⁵ One of the lessons we have learned from the literature on saving is that there is large heterogeneity in saving behavior.⁶ Individuals seem to differ widely in their degree of financial literacy as well. A “one-size-fits-all” education program may do little to stimulate saving and may itself be one of the major disincentives to attend a financial education program.⁷ Thus, designing and evaluating financial programs is intimately intertwined with understanding the determinants of saving and the presence or absence of financial literacy.

Several other studies that examine the effects of literacy on savings and investment choice have found that literacy matters. Lusardi and Mitchell (2006a,b) find that those who display higher literacy were more likely to plan and more likely to invest in complex and tax-favored assets, such as stocks and Individual Retirement Accounts. Calvert, Campbell, and Soderstrom (2005) show that households with greater financial sophistication are more likely to participate in risky assets markets and invest more efficiently. Hilgerth, Hogarth, and Beverly (2003) also demonstrate a link between financial knowledge and financial behavior.

⁵ For example, Duflo and Saez (2004) note that devices like “signing up on the spot” may mitigate problems of inertia and lack of action.

⁶ See Browning and Lusardi (1996) for an extensive survey on saving.

⁷ In the Washington Financial Literacy survey, most respondents state they would prefer personalized ways to learn how to manage money rather than attend information sessions. See Moore (2003) for detail.

All these factors become important when one considers that old-age dependency ratios are expected to rise sharply in the coming decades amongst OECD countries, with Europe and Japan projected to experience the greatest increases (OECD, 2005). Naturally, government pension programs in several countries will come under heavy pressure due to these changes, further underscoring the need for retirement planning. As workers increasingly assume responsibility to save and invest, it is important to find ways to equip them with an essential tool: financial literacy.

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