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ABSTRACT

As the world becomes more financially integrated and complex, average individuals and their families are increasingly faced with making highly sophisticated and all-too-often irreversible financial decisions. Nowhere is this more evident than with regard to retirement decision-making. Indeed, the global financial crisis suggests that poor financial decision-making can have substantial costs not only for individuals but also society at large. This paper focuses on key lessons for financial decision-making in the wake of that crisis, exploring how financial literacy can enhance peoples' skills and abilities to make more informed economic choices.

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Introduction[1]

As the world becomes more financially integrated and complex, average individuals and their families are increasingly faced with making highly sophisticated and all-too-often irreversible financial decisions. Nowhere is this more evident than with regard to retirement decision-making. A half-century ago, traditional defined benefit (DB) pension schemes were the norm in the United States, Japan, Australia and much of Europe, but these have now been largely been replaced with defined contribution (DC) pensions. In the process, employer and government judgment regarding how much to save and where to invest has been replaced by individuals having to make these choices on their own (or helped by advisers they select on their own). Additionally, participants in DC plans must also decide how to spend down their pension assets and determine whether to annuitize or take their benefits in a single lump sum. The trend toward disintermediation and financial complexity extends into other realms of life as well, for example regarding decisions over credit cards, adjustable rate mortgages, and when to claim retirement benefits (Campbell 2006; Ferguson 2010).

A larger array of available financial instruments does offer new opportunities for more tailored financial plans than available in the past, but these can also make poor decision-making more costly to the ill-informed investors. Indeed, recent events surrounding the global crisis that began in 2008 show that, when people and institutions make grievous financial errors, poor financial decision-making can have substantial costs not only for individuals but also society at large. This volume focuses on key lessons for financial decision-making in the wake of that crisis, exploring how financial literacy can enhance peoples' skills and abilities to make more informed economic choices.

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[1] This paper is the introductory chapter of our book titled: "Financial Literacy: Implications for Retirement Security and the Financial Marketplace," to be published by Oxford University Press.

The chapters that follow draw on cutting-edge research by eminent researchers and practitioners engaged in examining how financial knowledge can shape cost-effective financial planning and behavior. The research reported here suggests several main findings. First, financial literacy is found to be a key determinant of how well people make financial decisions, as well as how well they execute their financial transactions; and such information can inform saving, investing, borrowing from one's 401(k) account, and planning for retirement. Second, new evidence is reported on the extent of financial knowledge (or lack thereof), drawing from several surveys and showing that financial literacy's effects on financial decision-making extend above and beyond the effects of education, sex, race, income, and other factors often associated with gaps in financial knowledge. Third, it is possible to parse out the nexus of causality between financial literacy and financial decision-making. This is important, since financial knowledge can be influenced by peoples' choices but the directionality of the effect could also be reversed. For instance, people might invest in financial knowledge so they can invest in complex assets, which would not imply that investing causes the knowledge. And conversely, lack of knowledge could prevent people from investing but it could go the other way. Accordingly, work in this volume seeks to design controlled settings in which one can disentangle the causal links of most interest. The final lesson from this volume is that there is now substantial evidence – in the United States and elsewhere – that financial education programs can improve financial decision-making.

Our work will be of interest not only to researchers and teachers, but also policymakers engaged in work on financial reforms in the wake of the financial crisis, and providers of financial advice and financial services. There is increasing awareness of the need to improve retirement security via increasing financial literacy, as noted by the U.S. President's Advisory

Council on Financial Literacy (PACFL, 2008, np) who argued that: "While the crisis has many causes, it is undeniable that financial illiteracy is one of the root causes... Sadly, far too many Americans do not have the basic financial skills necessary to develop and maintain a budget, to understand credit, to understand investment vehicles, or to take advantage of our banking system. It is essential to provide basic financial education that allows people to better navigate an economic crisis such as this one." In Europe, the Organization for Economic Cooperation and Development (OECD nd) recently announced a major initiative to "identify individuals who are most in need of financial education and the best ways to improve that education."

Our work also responds to those seeking ways to help individuals and their families as they embark gingerly into the modern financial system, sometimes after substantial missteps. In what follows we briefly outline themes and highlight salient lessons.

Financial Literacy and Financial Decision-Making

In prior work as well as in the research presented in this volume, Lusardi and Mitchell (2007*a*, 2007*b*, 2007*c*, 2008, 2009, 2011) have devoted extensive effort to survey peoples' ability to understand basic financial concepts and plan for retirement. Their chapter in this volume explores how people make financial plans, collect the information needed to make these plans, and implement the plans in a survey of older Americans. Using these data, they show that financial illiteracy is widespread, particularly when it comes to understanding compound interest rates and the effects of inflation, along with the more nuanced concept of risk diversification. They report that only half of all respondents in the survey can correctly answer two simple questions regarding interest compounding and inflation, and only one-third correctly answer these two questions plus a question on risk diversification. Not only is financial illiteracy

widespread among older Americans, but shortfalls are concentrated among women, minorities, and the least educated. They also report that the financially savvy are more likely to plan and to succeed in their planning, and they tend to rely on formal methods such as retirement calculators, retirement seminars, and financial experts, instead of family/relatives or co-workers. The authors conclude that targeted financial education efforts are likely to be most effective in filling the knowledge gaps.

The workplace is an important source of financial education, particularly as workers approach retirement. In their study, Robert L. Clark, Melinda S. Morrill, and Steven G. Allen (2011) investigate the role of employer-sponsored retirement planning sessions in shaping retirement planning. Drawing on case studies, they examine seminars offered to individuals with mandatory defined benefit plans and voluntary defined contribution plans. In these seminars, employees learn about retirement planning as well as details of their own benefits and pension distribution rules. To see how the seminars work, participants are asked about their retirement intentions *prior to* and *after* the sessions, to determine whether the seminar is associated with any change in retirement intentions and plans.

The authors conclude that a third of those who originally indicated they would probably take the DB lump-sum payment before the seminar, decided afterwards not to take that option. Of those who originally planned not to take the lump sum, almost half changed their minds post-seminar. As for annuitizing DC plans, almost half changed their plans and decided not to annuitize following the information session, compared to a fifth who decided to annuitize after learning more about their retirement options. The authors note that those who indicated they would take the lump sum tend to have more knowledge about retirement-related finance. In this sense, many people who indicated that they would not take the lump-sum distribution actually

did not know they had that option, prior to the seminar. The survey also reflects only stated intentions rather than actual behavior, but when it comes time to actually make a final decision, the authors show that some two-thirds of employees do opt for the lump-sum distribution.

Another way in which pension accruals are utilized includes plan loans, particularly in the U.S. 401(k) environment. Stephen P. Utkus and Jean A. Young (2011) examine how borrowing from one's DC plan is linked to financial literacy and report that almost one-fifth of 401(k) participants had loans outstanding at any given time, with the loans averaging 16 percent of plan balances. The authors also find that lower levels of financial literacy appear linked to pension borrowing; that is, those with lower literacy test scores are also more likely to take the loans. A surprising result of the study is that higher-income people are also more likely to borrow from their 401(k) accounts. In sum, financial literacy is related to pension borrowing but this behavior should not be viewed in isolation from the household's overall balance sheet.

Financial literacy also plays a role in influencing decision-making regarding stock market investment. Joanne Yoong's (2011) study links lack of understanding about equity markets and investment in stocks using the American Life Panel (ALP), an internet survey. Her analysis shows that having no investment in stock is not associated with mistaken financial beliefs and, further, is not linked to important variables, such as risk aversion and income. She concludes that people shy away from the stock market primarily because they do not understand it. Thus, even if employers design pension plans to 'default' people into portfolios containing equity investments, investors would still benefit from learning about how financial markets work in order to make sensible investment choices.

Evaluating Financial Literacy Interventions

It is not surprising that uneducated consumers fail to make good choices when faced with complex decisions, risk, and lengthy time horizons, and there is at least the chance that financial literacy can help inform the decision process. Accordingly, the volume next covers various methods of assessing how to improve financial literacy. The chapter by Justine Hastings, Olivia S. Mitchell, and Eric Chyn (2011) explores how to present fees and charges in pension choice, focusing on the national mandatory DC scheme in Chile where workers elect which of five pension funds they invest their mandatory contributions. Using a nationally representative individual-level survey, the researchers examine respondent financial literacy and link it to how they select from among five fund managers available to handle their retirement investments. People respond that the top three factors they use in choosing a fund are recommendations from a friend, fund profitability, and to help a salesman (perhaps because the salesman would, in turn, do a favor for, or provide some sort of gift to, the participant). The empirical analysis shows that better-educated and higher-income respondents are more likely to select fund managers generating highest returns. This group is also more likely than others to turn to their employers for recommendations on fund managers. Lower-income respondents rely more on advertising and recommendations from friends. This suggests that the less-educated are more susceptible to how information is framed, implying that it may be important to monitor information and plan design as a protective measure for the least literate.

To the extent that people can hire advisers, they may not need to have financial information themselves, yet many are confused about where to find it and whom to trust to deliver it. This is the topic of the chapter by Angela Hung, Noreen Clancy, and Jeff Dominitz (2011), who study investor knowledge and experience with advisers and brokers-dealers. In the U.S., brokers-dealers and investment advisors have distinctly different roles: brokers conduct

security transactions, dealers buy and sell securities for others, investment advisors provide financial planning services and advice regarding securities, and consultants simply provide advice. But in practice, the lines may blur, so to gain a better sense of how well consumers understand these distinctions, the researchers surveyed members of the American Life Panel and conducted additional focus groups. They show that many people seem to understand how brokers-dealers and investment advisors differ, but few can distinguish between financial advisors and financial consultants. Furthermore, people who have worked with financial professionals tend to have long-term relationships involving trust. Nevertheless, many respondents believe they cannot use these services due to insufficient assets. A key challenge for the financial industry is to find ways to provide unbiased, experienced, and high-quality investment advice for low cost, and to serve people with widely-varying financial situations and needs.

A more detailed examination of how individuals with limited assets use the financial system is the subject of the study by Susan Carter, Paige M. Skiba, and Jeremy Tobacman (2011). In some sub-populations, alternative financial providers play a key role, including payday loan offices and pawn shops offering much-needed cash but often at a heavy price. Those who use these financing sources take out small and short-term loans, typically about $300 for a term of two weeks, carrying very high rates. To better understand payday loans, the authors compare credit union members having an electronic debit charge to a payday lender versus other credit union members. Unexpectedly, those taking out payday loans had higher credit scores, higher inferred income, and smaller loan amounts, than did their counterparts. Also these borrowers had higher initial account balances, relative to others, and half could have used their checking or saving accounts, or cheaper lines of credit, instead of the more expensive payday

loans. These findings show that it is important to examine all the financial pathways that influence long-term financial security.

Another risk to which consumers are exposed is the possibility that they may outlive their retirement wealth, and this too may be related to financial literacy. The study by Julie Agnew and Lisa Szykman (2011) explores why many workers seem reluctant to annuitize their retirement wealth, even when relatively low-cost annuities provide much-needed protection against longevity risk. In an experimental setting, the researchers first administer a short test to participants to assess their financial literacy levels. Next, participants play a game simulating investment versus annuitization decisions that might unfold for someone leading up to and through retirement. The experiment is structured to make the annuity choice simple, permitting the comparison of participant financial literacy to self-reported levels of cognitive and emotional overload, confidence, and satisfaction. The analysts find that individuals with higher levels of financial literacy are more likely to pick the investment option, while those reporting emotional overload tend to select the annuity. One implication is that plan sponsors would do well to simplify decisions about retirement plans if they are concerned about helping to protect against retirement insecurity. As in the case of Chile, it is important to evaluate how a retirement scheme might unwittingly drive participants into a ‘path of least resistance’ that is contrary to their best interests, particularly in the case of the less financially literate.

Financial illiteracy can be costly not only to individuals but also to society, which might imply that programs could be designed to help consumers and plan providers better achieve retirement security goals. This topic is taken up by Summit Agarwal, Gene Amromin, Itzhak Ben-David, Souphala Chomsisengphet, and Douglas D. Evanoff (2011), in their exploration of how counseling can work to influence mortgage demand patterns. The authors examine two

programs: a mandatory two-hour review of mortgage offers in Chicago, and a voluntary two-year counseling program in Indiana. In the former case, the State of Illinois required borrowers in ten zip codes to submit mortgage offers for review by HUD-certified counselors, over a four-month period. Borrowers electing risky mortgage products or who had a low credit score were required to attend counseling. The researchers show that, to avoid counseling, small lenders with loose lending criteria and consumers with low borrowing capability dropped out of the market; other potential borrowers chose less risky products so to avoid the counseling requirement. In other words, it appears that the program may have achieved its goals without actually providing the counseling! Under the latter voluntary program, participants could learn about credit and budgeting, develop a financial plan, and meet with counselors one-on-one each month. If they remained on track with their financial plan, they were entitled to receive loans from partner lenders. In this second case, the evidence suggests that loans made to program graduates performed much better than those of a control group. Nevertheless, there remain questions of causality about the second example, since those who participated may have also been more likely to be particularly motivated to succeed in the program.

Shaping the Financial Literacy Environment

Understanding retirement saving shortfalls may also be due, in part, to problems with time perception, as discussed by Gal Zauberman and B. Kyu Kim (2011). Their work suggests that people often tend to weigh the present more heavily than the future, even when they know their short-term decisions will interfere with important long-term goals such as saving for retirement. The authors characterize this psychological pattern with the term “resource slack,” defined as the notion that one’s preference for something today versus some time in the future

depends on the amount of resources available now versus later. The researchers point out that time is often viewed by economic models as a limited resource, but in experimental settings, people claim they will have more time in the future than they actually do which help explain why they put off saving today. A related finding, playing into the apparent disconnect between the ability to save now for future benefits, is a lack of understanding about time itself. The authors argue that people perceive time as being expansive in the present, but it is telescoped in the future. Thus, if retirement is 20, 30, or 40 years away, it all seems equally far away since the future is compressed. In addition to believing that they have more time to save than they actually do, people think they will have more money in the future than they do now, which further prompts them to put off saving for retirement. More generally, much psychological research shows that people often fail to grasp the linear nature of time and hence develop hyperbolic rates of future discounting.

One way to reduce the effect of time misperception on retirement savings is to design programs based on pre-commitment. Accordingly, some have tried to tie retirement saving to the annual tax filing process, so as to make saving automatic. Yet this, in turn, prompts discussion of the question of whether it is better to use behavioral approaches to encourage saving by default, or whether it is preferable to construct mandates or default programs that require people to adequately fund their own retirement. This is a theme which runs throughout the volume, emerging in several of the chapters.

An intriguing prize-based model designed to encourage retirement saving is the focus of work by Melissa S. Kearney, Peter Tufano, Jonathan Guryan, and Erik G. Hurst (2011), who illustrate how a lottery-like system can harness the popularity of low-probability, high-reward schemes to build retirement saving. The approach has been demonstrated to appeal to those

favoring low odds to "win big," including on their retirement saving, while preserving initial capital. For instance, the so-called Million Adventure bonds were sold in the U.K. to finance war debt in the 1690s, with exactly this structure. Again after World War II, the U.K. launched prize-based Premium Bonds with the slogan 'Savings with a Thrill!' This program today has more than 20 million bondholders. In South Africa, a privately-run plan sponsored by the First National Bank called the 'Million a Month Account' plan enjoyed a takeup rate higher than any other bank product. The authors helped initiate a prize-based saving program operated by a U.S. credit union called the 'Save to Win' which attracted many participants before it was closed down by authorities who viewed it as competition to the state lottery.

We also seek to expand understanding about financial literacy efforts underway around the world. In the case of New Zealand, Diana Crossan (2011) described the work the Retirement Commission has done to design a national strategy for financial literacy along with numerous private-sector and non-government partnerships. A national strategy to improve retirement readiness involved work with banks and other organizations to help assess needs and develop a strategy to improve financial literacy and retirement saving adequacy. A key role is assigned to a well-designed and informative website which attracts the old and the young; to date over a third of the country's population has used the program's calculators on the national website. In addition, the author highlights how the government integrated financial education in schools and in tertiary educational institutions.

In addition nongovernmental organizations are also taking an activist role around the world to improve financial literacy and financial capability in poor populations. The work of the World Bank is described by Robert Holzmann (2011), who notes that programs will need to be tailored to meet attributes of low and middle-income countries rather than directly exporting

lessons from developed nations. For instance, many people in low income countries lack access to financial services, and poverty focuses people more on day-to-day survival, rather than long-term planning. The rural nature of poor countries also is an important factor inasmuch as, in these nations, assets are likely to be seeds or cattle rather than homes or investment accounts. Poor countries also have far greater numbers of people working in the informal economy, curtailing the reach of organized interventions to develop financial capability. Finally, risk in the developing country context may be more complex and more personal than in richer nations, further hampering incentives to develop long-term financial capability. Accordingly, the author proposes that policymakers do more to monitor and evaluate programs that work. Moreover, he favors direct approaches to change behavior including social marketing approaches that have worked in other capacities, for instance in improving health outcomes (particularly for those with HIV-AIDS). It may be that these tactics could also be used to improve financial capability in low and middle-income nations.

The role of nonprofit organizations in the U.S. is the focus of the chapter by J. Michael Collins (2011), who notes that nonprofit organizations may enjoy more public trust since these institutions are not designed to benefit other stakeholders. In addition, nonprofits are often viewed as a force for pluralism, because they are able to reach underserved populations. The author reviews tax filings of tax-exempt organizations using the terms "credit counseling" or "financial education," and he concludes that these organizations tend to be small and very diverse. Some are small, community-based organizations with volunteer educators, while others are large agencies with professional staff providing multiple services. He finds it noteworthy that few nonprofit organizations were specifically set up to deliver financial literacy programs; rather, many began to offer financial education programs as part of some other activity. For instance,

the U.S. Department of Housing and Urban Development housing counseling program has financed over one thousand nonprofits geared to financial counseling related to housing. In addition, the U.S. Treasury Community Development Financial Institutions Fund has launched a financial education and counseling pilot program to provide grants to nonprofits focusing on financial literacy. After examining what the nonprofit programs offer, the author concludes that low-income clients do receive basic help on goal-setting and budgeting. As the organizations increase in sophistication, they then tend to move into offering credit management, help with access to financial institutions, and provide assistance with income tax filing and saving strategies. Though some may believe that nonprofits are a less expensive source of financial education than private advisers, the author can detect little evidence that nonprofits are any more or less efficient in providing financial literacy services.

Final Considerations

As the volume documents, financial illiteracy is widespread, making it increasingly challenging for ordinary consumers and their families to cope in an ever-more complex economic environment. This is a problem not only for those who live in developed countries, where it might be surmised that people should have a minimal command over simple numeracy, basic interest computations, inflation, and risk, but also in middle- and low-income nations as well, where financial challenges are perhaps more likely to bring hardship than in richer nations. But as shown throughout this volume, financial illiteracy undermines not only individual retirement security but indeed, the stability of the global financial system more generally.

For these reasons, boosting financial literacy skills may well be critically important for economic and social welfare not only of this generation, but of those to come. Finding out which

sorts of programs and financial decision-making structures are most effective, as well as cost-effective, is a task of supreme importance. Successful analysis will require experiments and evidence-based research, with solid evaluation efforts, many of which we report on here. Of course, much remains to be done to enhance financial literacy, particularly for women, those with low incomes, and the least educated. Without increased financial literacy, people will be increasingly at risk of making poor financial decisions which leave them to confront financial hardship, including an insecure old age.

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