

ASSESSING ADULT FINANCIAL LITERACY AND WHY IT MATTERS

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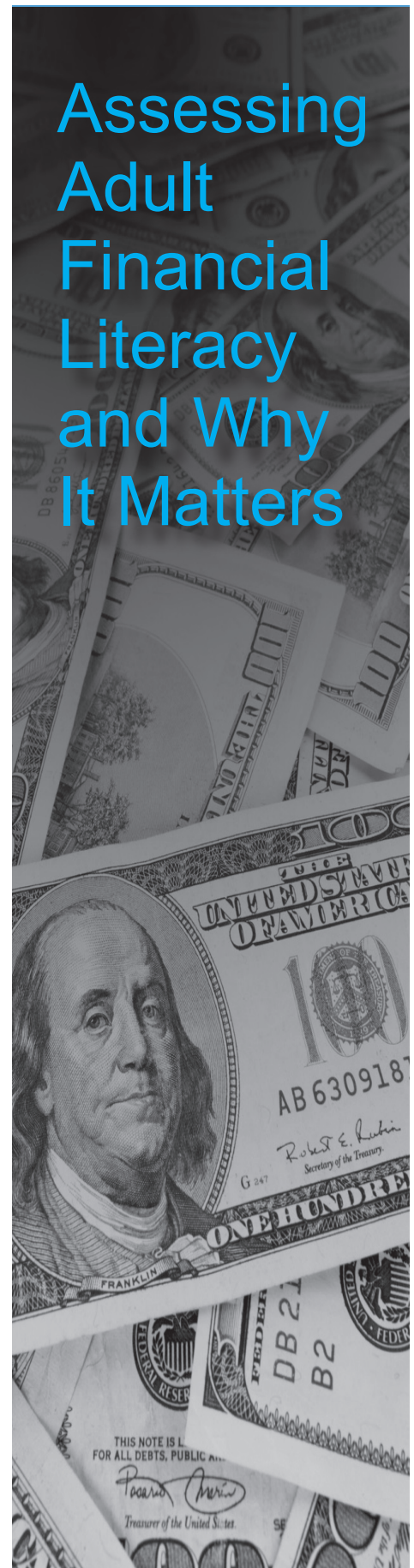
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At Indiana State University

Assessing Adult Financial Literacy and Why It Matters

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Assessing Adult Financial Literacy and Why It Matters

Lessons on Adult Financial Literacy

Financial literacy is growing in importance, especially as the US becomes increasingly an “ownership society,” yet there is also growing doubt about its adequacy among adults. The National Foundation for Educational Research defines financial literacy as the ability to make informed judgments and take effective decisions regarding the use and management of money. Former Chairman of the Federal Reserve Bank Alan Greenspan has said,

Today’s financial world is highly complex when compared with that of a generation ago. Forty years ago, a simple understanding of how to maintain a checking and saving account at local banks and savings institutions may have been sufficient. . . . consumers must differentiate between a wide range of financial products and services, and providers . . . Less-indebted generations may not have needed a comprehensive understanding of such aspects of credit as the impact of compounding interest and the implications of mismanaging credit accounts.¹

Networks Financial Institute (NFI) views financial literacy as an important

1. Remarks by Chairman Alan Greenspan at the 33rd Annual Legislative Conference of the Congressional Black Caucus, Washington, D.C., September 26, 2003. Available on the Federal Reserve Board website at <http://www.federalreserve.gov/boarddocs/Speeches/2003/20030926/default.htm>.

subset of literacy itself and a discrete skills set, important for helping people to become proficient and functional in our society. In light of its importance and the urgency of concern, NFI sponsored a Financial Forum on “Assessing Adult Financial Literacy and Why It Matters” in Indianapolis on March 28, 2006. The purpose of the Forum was to foster research and advancement in the field of adult financial literacy. The Forum drew a large crowd, including about 20 finance and economic professionals from outside Indiana. The program included a panel of five experts on economics and finance who have done considerable work on financial literacy, in addition to their other areas of expertise. Their papers comprise most of this volume. The panel focused on defining financial literacy, reviewing efforts to assess it, factors that promote it and the sorry state of performance of high school students on standard tests of financial literacy. The presentations provided an excellent overview of work on financial literacy and the interchange between the panelists was stimulating and probing. We are pleased to present the papers by the five panelists in this volume.²

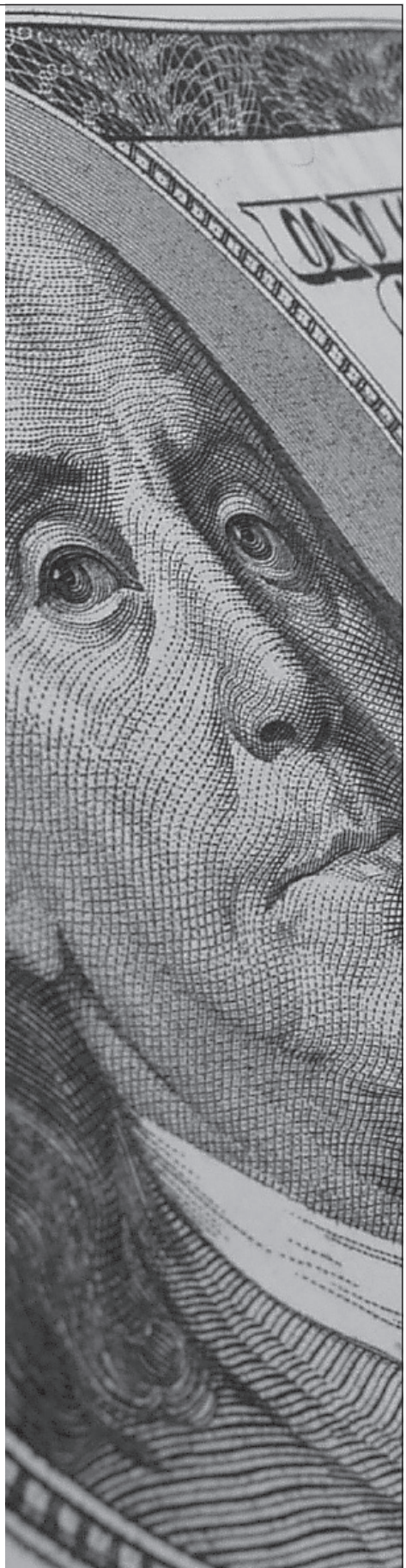
In addition to the panelists’ papers that are contained in this volume, we would like to call attention to three working papers that were also presented at the Forum and that focus on high-cost credit opportunities for low-income or financially challenged adults.³ The first, by Gregory Elliehausen of The Center for Credit Research at Georgetown University, reviewed the literature on high-cost credit facilities, including sub-prime lending and payday lending.⁴ The two other papers focused on payday lending.⁵ The papers were virtually unanimous in finding that users of high-cost credit sources know the explicit costs of credit very well, but are relatively unfamiliar with the prices that are quoted due to regulatory mandates, such as the average percentage rate or total interest charge. The evidence also suggests that payday lending is quite competitive with little variation in pricing across suppliers. Thus it appears that users know their costs very well and are attracted to these credit providers despite their high cost. Some evidence was reported indicating that providers have been able to easily circumvent efforts by regulators to limit repeat business of payday lenders at little cost to consumers.

2. See <http://www.networksfinancialinstitute.org> for March 28, 2006 for more information on the presentations. Click on news & events, then past events,

3. See <http://www.networksfinancialinstitute.com/working-papers.asp>.

4. Gregory Elliehausen’s paper, “Consumers’ Use of High-Price Credit Products: Do They Know What They are Doing?” is available at http://www.networksfinancialinstitute.com/pdfs/profiles/2006-WP-02_Elliehausen.pdf.

5. The first is Kathryn Samolyk and Mark Flannery’s “Payday Lending: the Demographics of Store Location and Loan Activity.” Katherine Samolyk is a Senior Economist in the Division of Insurance and Research at the Federal Deposit Insurance Corporation (FDIC), and Mark Flannery holds an Eminent Scholar Chair in Finance at the University of Florida. This paper will be available from NFI as a working paper in the near future. The second is Robert DeYoung and Ronnie J. Phillips’ “Payday Lending in Colorado.” Robert DeYoung is Associate Director of Insurance and Research for the bank research and regulatory policy groups at the FDIC and Ronnie J. Phillips is Professor of Economics at Colorado State University. See http://isunetworks.org/pdfs/profiles/2006-WP-05_Young-Phillips.pdf.





Probably the most important, depressing and general lesson about adult financial literacy is that the public's level of literacy is very low and that efforts to improve it through education have not, to date, appeared to work. The second most important and common point is that individuals are confronted by increasingly complicated choices and have increasing responsibility for their own financial well being. Most notably they must manage their own retirement planning and provision due to the shift from defined-benefit to defined-contribution programs. There is some evidence that programs called targeted (or focused) personal financial management, which include employer matches, alternative investments or behavioral tricks, such as automatic enrollment in firms' saving programs with optional opt-out provisions, are effective in boosting saving. This evidence also indicates that education is most effective when people are confronted with relevant decisions. For example, people absorb more relevant information when they are placed in a 401K program than they do when presented general and not immediately actionable information on the advantages of joining a program. But the science on which conclusions have been drawn is not very good. According to several panelists, we need random assignment studies to determine if these really work to boost saving. Several panelists pointed out that most studies have selection bias.

In his paper, Zvi Bodie, Professor of Finance and Economics at Boston University School of Management, drives home that, where financial literacy is concerned, it is better to be ignorant than to be taught and believe wrong things, and second, that there is no one adequate, single definition of financial literacy, since it depends on individual needs. Where low income households are concerned, there is some evidence that low income households know relevant financial facts, but there is also evidence that they have a lack of appreciation of the importance and benefits of planning. Bodie presents four basic financial principles that everyone should know: 1) the Law of One Price, which implies that if something looks too good to be true, it is, 2) the inter-temporal choice problem is that one cannot spend more than one has over a lifetime, which implies that people will smooth consumption by saving and dissaving at different stages of life, 3) in choosing assets and insuring against risk, it is important to match assets to goals and to know how to pool or subdivide risks through diversification, and 4) it is important to take account of taxes and transaction costs because many decisions that may seem optimal are not when account is taken of these factors. Commenting on the lack of evidence-based financial literacy research, Bodie recommends that efforts in adult financial literacy education should focus on planning for major life choices.

Swarthmore College Professor of Economics John P. Caskey emphasizes the dearth of good studies of what works to improve financial literacy and also what works to improve saving. Caskey suggests that it may be

that a regulatory or paternalistic approach leads to better outcomes in the financial decisions of low income people. Professor Caskey argues that the most effective way to teach financial literacy is to confront people with real choices at the point where decisions are made or will soon be made. This also accounts for the relative appeal of games that simulate real decisions. There is some evidence that such training has positive benefits for knowledge and for immediate decisions; Caskey and other panelists concur on this point, as well as on the notion that the use of propaganda and compulsion could improve financial behavior. Professor Caskey's paper, "Can Financial Management Education Promote Asset Accumulation by the Poor?" asks whether education is an effective mechanism for helping lower-income households accumulate financial assets and improve credit histories. Since extant research only suggests, but does not prove, better approaches, he calls for future research to prioritize the gathering of evidence on whether the teaching of personal financial management skills to low-income households can effectively improve their financial status.

Robert I. Lerman, American University Professor of Economics and Urban Institute Senior Fellow, coauthored "Financial Literacy Strategies: Where Do We Go From Here?" with Elizabeth Bell. He argues that financial literacy education should focus on essential and major life choices and the importance of saving and budgeting for them. Lerman indicates that everyone should know about how to use a checking account and other payment methods, such as ATMs and credit cards; and they should know about budgeting and the benefits of asset accumulation, especially human capital and housing, the two most important assets for most individuals. Like Professor Caskey, Lerman suggests that better outcomes may result from financial management practices imposed on low income people through regulatory means. He discusses the importance and effectiveness of such targeted programs and highlights some areas where knowledge is most notably lacking: 1) half of adults do not know that borrowing is more appropriate for the purchase of durable goods than for non-durables; 2) people do not save enough for retirement, especially the bottom 25 percent; the median financial assets of people aged 45-54 is only about \$8000, and 3) 20 percent have debts that exceed their assets. In the face of such statistics, Lerman agrees with other panelists that the use of propaganda and compulsion may improve financial behavior.

Annamaria Lusardi is an Associate Professor of Economics at Dartmouth College and a Research Associate at the National Bureau of Economic Research. Like Dr. Caskey, she suggests that financial literacy education is most effective at the point of need for particular decisions. People score very low on tests of financial literacy and adults have little understanding of the effects of inflation on income, saving or investment



returns, or how to assess relative rates of return. Lusardi reports on her research in “Financial Literacy and Financial Education: Review and Policy Implications.” She suggests that households have little understanding on interest rates, inflation or diversification for investment performance. People are also very poor planners in attempting to provide for future financial responsibilities, yet consumers are faced with an increasingly bewildering array of complex financial decisions and products. Dr. Lusardi reviews an array of financial education programs in her discussion of workers’ financial preparedness.

Professor of Finance and Managerial Economics at the State University of New York at Buffalo, Lewis Mandell summarizes his finding from his work on the Jump\$tart Coalition for Personal Financial Literacy’s national test for financial literacy in his paper. This test for high school seniors has been given biennially since 1997-98. After an initial decline to 50.2 percent in 2002, the average score has risen to 52.3 in 2003-04; after the Forum, it was announced that the 2005-06 score was 52.4 percent. On average, students fail the test and research indicates that financial literacy has not increased since the test began and that financial literacy education has not raised scores. There has been some evidence in longer term studies that courses result in better financial practices, according to Mandell. He also argues that in tests of four-year college students there is some positive correlation between financial literacy scores, thrift and personal efficacy, or the sense of personal control over one’s life. Professor Mandell shares the conclusion of other panelists that propaganda and compulsory programs can help to improve financial behavior and he cites, in particular, propaganda emphasizing that, as emerging adults, students are on their own and must master their environment. The concept that they are personally responsible for their own well-being may raise their tendency to save. Compulsory programs may also raise thrift; for example, compulsory saving programs in Australia and in Singapore have been successful in boosting saving.

The last paper in this volume is “Learning Your Monetary ABCs: The Link between Emergent Literacy and Early Childhood Financial Literacy.” It is NFI’s position paper on the importance of financial literacy education in the early grades, written by David Godsted, NFI’s Director of Outreach and Martha Henn McCormick, NFI Research Coordinator. This paper completes the circle, in a sense, because the earlier papers emphasize the financial literacy deficiencies of high-school seniors and adults, despite increasing attention to them. What links adults and young children is that the former do not have, and the latter are not getting, the right financial concepts for successful behavior. Earlier educational efforts are likely to raise literacy levels among all age groups.

The burgeoning body of work on early literacy reveals that traditional literacy, the foundation for virtually all other subject areas, needs to be taught from the very earliest ages; this focus on early childhood literacy is known as emergent literacy. NFI's position paper on the value and importance of early childhood financial literacy extends the lessons of emergent literacy. Just as there are core concepts behind literacy that must be taught at the earliest possible ages, children must also have a foundation of core financial literacy concepts built before they begin to tackle more sophisticated activities. Addressing financial literacy in the classroom and as early as kindergarten through second grade (K2) lays the groundwork for more advanced studies of financial literacy that typically appear in the later years of K12 education.

As is the case with emergent literacy, children in poverty may be up to two years behind their more advantaged peers in counting skills and other aspects of foundational numeracy. Such early learning deficits may persist, effectively severing these at-risk students from full opportunity to later pursue mathematical, scientific or technical studies. Research shows that pre-K through second grade mathematical experiences are good predictors of later success, or lack thereof, in mathematics, science and technology. Therefore, students should be provided with basic support and allowed to catch up in the classroom setting. Financial literacy foci allow students to learn money concepts while addressing both their emergent literacy and numeracy.

If educators view consumer education as a lifelong process, they will initiate students early in financial literacy in order to ensure that students have the best chance to develop consumer behaviors that will serve them well into adulthood. At the youngest grade levels, doing so will entail concentrating on the baseline concepts that form the foundation for the personal financial decisions children and, ultimately, adults must be prepared to make about building and managing wealth, including:

- Goal setting – beginning to develop the ability to plan for future purchases and to take the steps necessary to achieve those goals.
- Intertemporal choice – presenting scenarios to children so that they understand that there are times when it is better to wait for something instead of acquiring it immediately.
- Earning – giving children the opportunity to earn rather than always receiving gifts helps them to see the value in the time and effort they would expend towards purchasing an object.



- Saving – developing habits in children where it becomes second nature to put a portion of their earnings away, and promoting activities where the act of saving becomes a form of instant gratification.
- Spending – learning how to be savvier in the way children make choices as consumers, comparing costs and marketing claims.
- Giving – helping children to see that philanthropy can be a natural part of being financially literate, thereby setting the stage for a nation of givers in the future.

The stakes are enormous. Through early financial literacy education, we need to lay the groundwork that will help young children develop to adults who are able to directly address the trends we are experiencing of mounting debt, ever increasing rates of bankruptcy, and uncertain health-care, social security and retirement funding systems. Research shows us that there is a positive relationship between quantitative and financial literacy and that, even among college-educated individuals, quantitative literacy is relatively low. The December 2005 National Assessment of Adult Literacy (for the year 2003), reveals that fully 55% of adults have only basic or below-basic quantitative literacy, performance levels that are typically referred to as inadequate. At the “below basic” level, often referred to as illiterate, 22% of adults are quantitatively illiterate, as compared to the 14% who are prose illiterate. This is a rough indication that nearly one-fourth of adults lack financial literacy skills and a much larger number are close to that threshold. Since 1992, the only improvements shown by the study are that quantitative illiteracy declined from 26% from 22% and that intermediate quantitative literacy improved from 30% to 33%.⁶ Similar research conducted as part of the “The Literacy of America’s College Students,” conducted by the American Institutes for Research (AIR) and sponsored by the Pew Charitable Trusts, shows that college students, like the general adult population, have the most difficulty with quantitative literacy: 21% of 4-year college students and 34% of 2-year college students rank as at the basic level or below, indicating that they have inadequate quantitative literacy.⁷ In NFI’s home state of Indiana, 62% of high school seniors failed the Jump\$tart Coalition test of financial literacy in 2005; and Indiana scored better than the nation (2004), where 66% failed. About a third (34%) of Indiana students scored a C or D and on the survey and only 4% scored a B.

NFI is strongly aware of the dire state of financial literacy among the adult population in Indiana and nationally. That is why we were so

6. National Assessment of Adult Literacy (NAAL) results are available from the National Center for Education Statistics website at <http://nces.ed.gov/naal/>.

7. The full study is available at http://www.pewtrusts.com/pdf/The_Literacy_of_American_College_Students.pdf.

pleased to sponsor the “Assessing Adult Financial Literacy and Why It Matters” Financial Forum. We are even happier to make this volume available. NFI is already established as a national leader in pre-adult financial literacy and we expect to continue to develop research and programs in adult financial literacy. We believe this volume is an important step in that direction and we hope that it provokes a positive response from financial services industry leaders, policy makers, educators and community organizations, as well as parents and all of us who would benefit from enhanced

John A. Tatom
Director of Research
August 11, 2006



About The Author

Zvi Bodie is Professor of Finance and Economics at Boston University School of Management. He holds a Ph.D from the Massachusetts Institute of Technology and has served on the finance faculty at the Harvard Business School and MIT's Sloan School of Management. Professor Bodie has published widely on pension finance and investment strategy in leading professional journals. His books include *Foundations of Pension Finance*, *Pensions in the U.S. Economy*, *Issues in Pension Economics*, and *Financial Aspects of the U.S. Pension System*. His textbook *Investments* is the market leader and is used in the certification programs of the Financial Planning Association and the Society of Actuaries. His textbook *Finance* is coauthored by Nobel Prize winning economist, Robert C. Merton. Professor Bodie is a member of the Pension Research Council of the Wharton School, University of Pennsylvania. His latest book is *Worry Free Investing: A Safe Approach to Achieving Your Lifetime Financial Goals*

A Note On Economic Principles and Financial Literacy

by Zvi Bodie

financial literacy.

Finance is a branch of economics that deals with budgeting, saving, investing, borrowing, lending, insuring, diversifying, and matching. In setting standards of financial literacy we ought to make sure they are consistent with the basic principles taught in economics courses. In section I, I list four of the economic principles I believe can and should serve as a firm conceptual foundation for setting standards of financial literacy and for framing financial decisions. In section II, I illustrate how those principles can and should be applied to personal finance.

I. General Principles

1. In making financial decisions, one should always bear in mind the “Law of One Price” and the dynamics of market arbitrage which enforce the law. This is a version of the economic principle that there is no “free lunch” in competitive markets.
2. Frame decisions about personal saving and investing in terms of a model of rational lifetime resource allocation: maximize welfare subject to the constraint that the present value of lifetime consumption cannot exceed the present value of lifetime labor earnings adjusted for bequests of wealth.

3. Frame decisions about insuring against risks and portfolio selection in terms of a rational model of maximizing expected welfare. The two main methods of dealing with uncertainty are the matching of assets to desired goals and pooling and subdividing risk (a.k.a. diversifying).

4. Take account of taxes and transaction costs. Many decisions that may seem optimal before taxes and transaction costs may not be optimal after taking account of taxes and transaction costs. But rarely is a decision optimal if it is motivated solely by the desire to minimize taxes payable.

I believe that these four principles ought to be integrated into economics courses in the schools and in adult education seminars. Unfortunately some of the so-called “educational” materials distributed by financial firms and professional advisors (and even by regulatory agencies) are not consistent with these principles. In particular, their approach to portfolio selection relies exclusively on diversification and excludes matching assets to desired goals. They promote the fallacious concept of “time diversification”-- that in the long run investing in stocks dominates investing in inflation-protected bonds because it lowers risk without lowering expected return. From this fallacious notion that there is a free lunch to be had in the long run, they derive guidelines that can be hazardous for certain classes of individuals, exposing them to far more risk than they would accept if well informed.

II. Applying Principles of Economics to Personal Finance

1. Budgeting

Budgeting means making a financial plan. Budgeting typically starts with an analysis of your past spending patterns. Such an analysis can reduce waste and thereby improve your standard of living. A long-term financial plan must satisfy the constraint that the present value of lifetime consumption spending cannot exceed the present value of lifetime labor earnings adjusted for bequests of wealth. Labor income can be “lumpy” and unpredictable. Plan to “smooth” income over time to achieve a higher level of welfare.

Example: Save more during high earning years, especially if you are not sure about how long the high earnings will last. If you experience a financial “windfall” (e.g., you win a lottery), don’t spend it all immediately.

2. Saving

Saving means not spending current income on consumption; it is



measured as the difference between your income and your consumption spending. Your saving can be used to reduce your debt or increase your assets. In some cases it is not clear whether you should treat a particular outlay as consumption or as saving. For example, if you spend money on acquiring more education to increase your earning power in the future, you ought to consider it saving. But it is usually treated as consumption.

Note that in much of the popular “educational” material on personal finance, “saving” is mistakenly defined as putting money into safe assets such as bank saving accounts. It is then contrasted with “investing,” defined as putting money into risky assets, such as stocks. But a basic principle of measurement in economics is that, in any period, new investment for a household, a business, or any other organization always equals its new saving. Thus measured, saving and investing are two sides of the same coin.

3. Investing

In personal finance, investing means deciding how to allocate your assets along the spectrum from safe to risky. But an asset that is safe for one person may be risky for another. For example a long-term bond can be a safe investment if you are investing for the long run but risky for the short run. If you want to maintain your standard of living, then inflation-protected bonds are safer than ordinary bonds. Buying a house is safe if you intend to live in the same neighborhood for a long time but risky if you plan to move far away in a couple of years. Stocks are risky no matter how long your time horizon.

When investing, always bear in mind the “Law of One Price” and the powerful force of market arbitrage which enforces the law. This is the financial version of the economic principle that there is no “free lunch” in competitive markets. Market prices of assets reflect the information available to all market participants. It only takes two well-informed, competitive bidders to cause the price to accurately reflect intrinsic value. If an investment seems like a “bargain,” it almost surely has high risk.

4. Borrowing

Access to credit is valuable because it allows you to smooth your consumption over time. If you want to purchase a house, a car, or invest in your own business, you may have to borrow. Make sure you know how much you owe and what interest rate you are paying on your debt. Credit card debt is usually very expensive, so always consider other types of borrowing first. Mortgage loans are usually the cheapest form of debt because the lender has your house as collateral for the debt. Leasing an asset for a long time is like buying it with borrowed money and paying it off over

time. Embedded in the lease payment is an interest rate on the borrowed money.

5. Lending

Before lending money to anyone, always consider the risk that it might not be repaid due to circumstances beyond anyone's control. Taking collateral is a way to control the risk of default. Receiving a higher interest rate is a way to compensate you for this risk. Often lending does not involve money but rather consists of letting someone use an asset you own (e.g., an apartment). In that case, consider the potential loss in value of the asset that might occur during the period of the loan.

6. Insuring

Insuring means buying a contract to compensate you for a loss that is much larger than the insurance premium. Insuring can be a very cost-effective way of protecting yourself against certain risks. Instead of insuring, you can save to build up a reserve of assets as a precaution to help you withstand a possible loss. But if the potential loss is very large and its likelihood relatively low, insuring will be far more efficient than precautionary saving. On the other hand, insurance policies often contain optional features that increase their price. It is wasteful to pay for protection against hazards that you do not face.

7. Diversifying

Diversifying means reducing your exposure to risk by not "putting all your eggs in one basket." Instead of investing in the stock of a single company, split your investment among the stocks of different companies in different industries. Because some of the gains will cancel some of the losses, the riskiness of the portfolio of stocks will be lower than the risk of an investment of equal size in a single security.

Note that diversification only reduces your risk when applied to different stocks or other risky assets; it does not work over different time periods. You do not necessarily reduce your risk exposure by investing for many periods rather than for a single period.

8. Matching

To eliminate the risk of falling short of a savings goal at a specific future date, you must match the maturity of your investment to the goal. This cannot be done when you invest in stocks or in mutual funds that have no specific maturity date.





About The Author

John P. Caskey is a professor of economics at Swarthmore College. He received his B.A. from Harvard University and his Ph.D. from Stanford University. For over a decade, his research has focused on the use of financial services by lower-income U.S. households and on community development financial institutions. Professor Caskey has served as a visiting scholar at the Federal Reserve Bank of Philadelphia, the Federal Reserve Bank of Kansas City, the Universidade Nova de Lisboa (Portugal), and Yale University. He has also worked as a consultant for the Filene Research Institute, the Ford Foundation, Pew Charitable Trusts, and the World Bank. In addition to his academic work, Professor Caskey serves on the Board of Directors of the Chester Community Improvement Project, a non-profit low-income housing development agency, and the Franklin Mint Federal Credit Union.

Can Personal Financial Management Education Promote Asset Accumulation by the Poor?

by John P. Caskey

I. Introduction

Millions of low- and moderate-income (LMI) American households live from paycheck to paycheck with no, or almost no, financial savings. They are in a precarious financial situation. They have no savings to fall back on if they experience an unexpected decline in income or an unexpected expense. Furthermore, many of these households are ineligible for traditional sources of credit because they have a history of failing to meet financial obligations in a timely manner. This is not surprising. They are living with no financial margin of safety and frequently must trade off one pressing payment obligation against another.

Individuals who live from paycheck to paycheck with impaired credit histories incur a number of costs. Frequently, they obtain their payment services from check cashing outlets where they pay more for these services than individuals who are able to maintain bank accounts. If they need short term loans to bridge periodic financial crises or to meet expenditure needs, they face the embarrassment and censure associated with turning

to family or friends or they have to patronize high-cost lenders or turn to equally high-cost alternatives, such as rent-to-own stores (Caskey, 2005). Finally, living with no financial margin of safety is stressful, and this in itself can take a severe toll (Caskey, 1997).

A wide variety of organizations have instituted programs to teach personal financial management (PFM) skills in an effort to help such LMI households improve their credit histories and build savings. This paper addresses the question: Is this an effective approach to the problem? In brief, the conclusion is that we don't know. Several high quality studies provide evidence that suggests that PFM education can help LMI households to build savings or improve credit histories. But, I argue, the evidence so far is only suggestive. Given the prominence of PFM educational initiatives, there is a pressing need to begin to build a stronger case that they are indeed effective.

In addition to PFM programs, there are numerous other wealth-building initiatives targeting LMI households. Many focus on making homeownership accessible to LMI households or on raising their incomes by improving job skills. Others use "individual development accounts," (IDAs) which offer dollar matches for the financial savings of lower-income households. In order to receive the match, IDAs typically require that the households leave their funds in a special deposit account for an extended period of time and specify that withdrawals can only be used to pay for an approved set of wealth-building expenditures, such as education, a down payment on a home, or a to start a business. In many cases, these alternative approaches are combined with PFM programs. To keep this paper focused and reasonably brief, however, I examine exclusively the evidence that supports the effectiveness of PFM initiatives.

II. Many LMI Households Lack Savings and Have Impaired Credit Records

Household surveys consistently find that many families have almost no financial savings. The most comprehensive survey of households' assets and liabilities is the Survey of Consumer Finances (SCF). Summary statistics from a weighted, nationally-representative sample of the 2004 SCF were recently published (Bucks et al, 2006). The data indicate that a large fraction of LMI households have almost no financial assets. Of families with incomes in the lowest quintile of the income distribution, 19.9 percent have no financial savings. This means that about 4.5 million lower-income households live with no financial savings, not even a bank account. Even



among those families in the lowest quintile of the income distribution who do have financial savings, the median holding is a very modest \$1,300. If we rank families by net worth rather than income, among families in the lowest quarter of net worth, the median value of total financial assets was just \$1,000.

The SCF data also indicate that many LMI households live with heavy debt burdens and impaired credit histories. For example, 27 percent of the families in the lowest quintile of the income distribution had debt-to-income ratios over 40 percent. In contrast, only about two percent of families in the highest quintile of the income distribution had such heavy debt-to-income ratios. In addition, among families in the lowest quintile of the income distribution, 16 percent had been late sixty days or more in paying a bill during the previous year. Among families in the highest quintile of the income distribution, only about two percent reported being late sixty days or more.

The Freddie Mac Corporation (1999), a large government-sponsored housing enterprise, found similar results in its 1998 survey of 20,000 households with incomes under \$75,000. The survey focused on the households' credit histories and financial behaviors. It classified a household as having a "bad" credit record if the household reported that:

- it had been at least 90 days late on a payment in the previous two years,
- it had been 30 days late on a payment more than once in the previous two years, or if
- it had a record of bankruptcy or liens file on its property due to payment delinquencies.

By these criteria, at least 36 percent of the households with 1998 income below \$25,000 had bad credit histories. The percentage could actually be substantially higher since about 13 percent of the survey respondents did not provide sufficient information for Freddie Mac to classify their credit history.

III. How Might a PFM Course Help?

Most existing PFM courses targeted to lower income households or to heavily indebted households are implicitly based on the premise that households fail to save because they underestimate the gains from acquiring savings or overestimate the costs associated with cutting current spending. Consider the content of typical budget-education courses.⁸

8. Katy Jacob et al (2000) provides a survey of PFM courses targeting lower-income families.

Almost all require clients to begin by listing all of their household expenditures over the course of a month or longer. This practice forces the clients to sum their household expenditures over the course of a month in various categories, providing the clients and counselors a concise portrait of how the households allocate their incomes. Without this exercise, most people have little idea of the fraction of their incomes that go to purchases of gasoline, newspapers, outside meals, etc. They lack this information because such expenditures are made in small daily or weekly increments and it is easy to overlook their cumulative share of a monthly or annual budget. Counselors argue that the information frequently reveals to their clients expenditure cuts, such as bringing a homemade lunch to work rather than eating out, that might be relatively painless and yet result in significant cost savings over time. Moreover, counselors generally encourage clients to continue to record and analyze household expenditures so that the families will always have concise, accurate information on the allocation of their incomes.

Beyond helping clients to assemble information on their expenditure patterns, many personal financial management courses provide comparative cost information on various insurance and credit choices, telephone plans, energy saving strategies, and on shopping alternatives. Courses aimed at lower-income urban households, for example, might compare the cumulative annual cost of using a check-cashing outlet to the annual cost of a bank account or compare the cost of purchasing a television under an installment plan to the cost of acquiring the same television through a rent-to-own store. Most PFM courses discuss the role of annual percentage rates. Many such courses provide examples of the impact of compound interest on asset accumulation, and it is common for PFM courses to discuss the importance of maintaining sufficient levels of precautionary savings. Finally, many courses include information on social security benefits to help families make well-informed retirement savings plans.

In addition to providing information to help people make better informed spending and saving decisions, PFM education may also teach behavioral “tricks” that people use to help themselves adhere to a desired course of action. PFM courses commonly advocate, for example, that people should withdraw only a fixed amount of cash at the beginning of each week to pay for recurrent minor expenditures and should abstain from using credit cards except where absolutely necessary. The courses also commonly recommend that people should immediately deposit a part of each paycheck in a savings account that is not used for transactions purposes (the “pay yourself first” rule) and use payroll deductions to fund retirement plans and other savings goals. Beyond teaching such pre-commitment tricks, personal financial management courses can include motivational counseling.



IV. Do Personal Financial Management Courses Work?

In this section, I review the five studies that are often cited as supporting the conclusion that PFM education can increase the savings of lower-income households or help them to improve credit histories. These studies have numerous strengths. But I argue that none provides reliable evidence that PFM education is an effective remedy for the lack of savings or impaired credit histories of LMI households.

Before discussing the five studies, it is useful to consider three issues that make determining the effectiveness of PFM education difficult. First, although financial-management courses share many common features, they also differ in many ways. The topics that they cover differ. They can be delivered in a variety of ways: purely via written material, through course lectures, through computer instruction, through one-on-one study and counseling sessions, etc. The clients differ. They can be high school students, adult welfare recipients, church members, mortgage applicants, etc. The implication is that any test of the effect of PFM education on subsequent behavior will only be a test of the particular course. Only further testing will determine the broader applicability of the findings.

A second issue in any evaluation of the impact of financial-management education courses is the time period over which to conduct the evaluation. The effects of the course on behavior may be very different three months after the termination of the course as compared to ten years. Ideally one would like to test for both short-term and long-term impacts, but until that is done, one should be careful not to assume that the impacts are the same.

The third issue is the difficulty created by selection issues. The organization that leads a PFM educational effort may select individuals for the course whom the organization believes are the most motivated to change their financial practices or have the aptitude necessary to do so. If so, any observed changes could be the result of the motivation or aptitude of the clients, not the impact of the PFM instruction. Similarly, individuals who enroll in and complete a PFM course may be individuals who are already self motivated to change their financial practices. If so, once again, any observed changes in behavior may reflect their motivation and not the course content.

The problems created by the selection issues lead me to ignore two types of studies in this paper. First, this paper ignores studies that exam-

ine whether people with better financial situations (more savings, better credit records, etc) have more knowledge about good personal financial management practices. Such studies do not demonstrate that the knowledge caused the better financial situations. It could well be that some third factor, such as motivation or general intellectual aptitude, led individuals to be financially more successful as well as to learn about good financial management practices. In other words, the correlation does not reflect causation. The second type of study that this paper ignores is the simple before-and-after study. In such studies, the researcher collects information on the financial characteristics of individuals taking a PFM course prior to the course and again sometime after completing the course. Any change in the characteristics, such as an increase in savings rates, is attributed to the course.¹ While this approach has been common, it has two serious problems. First, one does not know how the financial characteristics of the individuals taking the course would have changed over the same period of time even without the course. Moreover, as noted above, selection issues created by the organization running the course or by the individuals choosing to complete the course mean that the researcher using this approach cannot identify the independent impact of the PFM course.

The common strength of the five studies that I examine below is that they all make a serious effort to avoid the contamination created by selection issues. Four of the five do so by contrasting the financial characteristics of those exposed to PFM education (the “treatment group”) to the characteristics of a similar group of people who were not exposed PFM education (the “comparison group”). This approach attempts to approximate the ideal approach --- a random assignment study. In the random assignment study, one would randomly assign people to either receive PFM education or not (the “control group”). One would then track the two groups over time. The difference in their financial characteristics should reflect the impact of the PFM education since the random assignment ensures that the two groups have, on average, similar observable and unobservable characteristics. They differ only in their exposure to the treatment.

In two of the four studies below that use comparison groups, the authors acknowledge that the individuals in the comparison groups may differ from those in the treatment groups due to unobservable characteristics. This could contaminate the results since differences in the subsequent characteristics of the treatment and comparison groups could be due to the effects of PFM education or due to the differences between the individuals in the treatment and comparison groups. In these studies, the researchers attempt to isolate that part of the difference in financial

1. Two examples of such studies focusing on LMI individuals are the studies by Gladys Shelton and Octavia Hill (1995) and by Julia Marlowe, Deborah Godwin, and Esther Maddux (1995).



characteristics that is due to PFM education and that part that is due to differences between the unobserved characteristics of the treatment and comparison groups.

In the other two studies that use comparison groups, the researchers argue that exposure to the treatment (PFM education) was essentially random since it depended on the company that one worked for or the state where one attended high school. If people who worked for companies that did not offer PFM education, or who attended high schools in states that did not have relevant unobservable characteristics, such as attitudes toward risk or levels of motivation or aptitude, that are equivalent to those of individuals who were exposed to the treatment, then these quasi-experimental approaches should provide results that are nearly equivalent to an experimental random assignment study.

Below, I argue that there are good reasons to doubt the reliability of the results produced by these non-experimental studies. Before plunging into the details, however, I should note that evaluations of a wide variety of programs, in such fields as job training, education, and health care, have used comparison groups to measure the effects of the programs. Numerous researchers have investigated whether good non-experimental approaches can approximate the results produced by random assignment studies. Steven Glazerman, Dan Levy, and David Myers (2002) recently surveyed the literature produced by these studies. They identified sixteen high quality random assignment studies where researchers used comparison groups to try to replicate the results produced by the experimental methods. The authors report that in five of the studies the non-experimental methods performed reasonably well when the researchers had extensive background data on the observable differences in the trends and levels across the treatment and comparison groups prior to the treatment. In three of the studies, some of the non-experimental methods produced results that were reasonably close to the random assignment studies but others did not. In eight of the studies, the non-experimental approaches did not produce results that approximated those of the random assignment studies. In my mind, these results alone should raise doubts about the ability of non-experimental studies, even when conducted in a very conscientious manner, to measure accurately the impact of PFM education.

Hirad and Zorn

Abdighani Hirad and Peter Zorn (2002) used Freddie Mac data on almost 40,000 mortgages originated under the Affordable Gold program to study the effect of pre-purchase counseling on mortgage delinquency rates. The Affordable Gold (AG) program is intended to facilitate hom-

ownership for borrowers who earn 100 percent or less of area median income. Since 1993, Freddie Mac has stipulated that it will only purchase a mortgage from a lender under the AG program if the lender certifies that the borrower received pre-purchase homeownership counseling. Such counseling almost always includes coverage of good budgeting and financial management practices. However, Freddie Mac would exempt borrowers from this counseling requirement if (1) at least one co-borrower previously owned a home, (2) the loan-to value ratio was below 95%, or (3) the borrowers had cash reserves exceeding two months of mortgage payments. But for reasons that Hirad and Zorn do not explain, some of the borrowers who met at least one of these criteria either decided to obtain counseling themselves or were required by their lenders to obtain counseling. In any case, about three percent of the borrowers in the data set were not required to seek pre-purchase counseling and did not do so. This subset of borrowers serves as the comparison group.

In the Hirad and Zorn study, the dependent variable is whether a mortgage was ever 90 days delinquent. The researchers initially included as explanatory variables whether the borrower received counseling, what type of counseling the borrower received (individual, classroom, home-study, or telephone instruction), and what type of organization delivered the instruction (the lender, a non-profit, a government entity, or a mortgage insurer). They also included a variety of variables in the loan files that might affect the risk of the borrower or the property. Hirad and Zorn recognized, however, that the individuals who selected, or who were required by lenders, to receive counseling of a particular type or no counseling might differ systematically from others in the data set based on a wide range of potentially relevant information: motivation, aptitude, parents who might step in to provide help in a financial crisis, etc. Hirad and Zorn can't control for such differences in the regression since these data are not in the data set. Consequently, the estimated impact of receiving counseling, of any type, could be biased. They try to address this problem by using two stage least squares. In the first stage, they use a logistic regression to estimate the probability that one will obtain counseling of a particular type or no counseling. In the second stage regression, the dependent variable is once again whether or not the mortgage was ever 90 days delinquent but the counseling variables have been replaced by the fitted probability of obtaining counseling from the first state regression.

In theory, this approach will provide unbiased estimates as long as the explanatory variables in the first regression are not correlated with the relevant factors omitted from the second stage regression. But for the estimates in the second stage to be sufficiently precise to be useful, the variables included in the first stage must also have a reasonably strong correlation with the type of counseling obtained.



In their first stage regression, Hirad and Zorn used five variables to explain the likelihood of obtaining counseling and the type of counseling obtained: the type of lender that sold the mortgage to Freddie Mac, the borrower's age, the borrower's gender, the loan-to-value ratio, and the population of the MSA in which the property was located. Not surprisingly, these five variables did a fairly poor job of predicting whether an individual would be counseled and, if so, what type of counseling he or she might obtain. In the second stage regression, Hirad and Zorn found that the effects of 15 of 16 types of counseling were so imprecisely estimated that the researchers could not reject the hypothesis that they had no impact on delinquency rates. Only classroom counseling by lenders was statistically significant. Hirad and Zorn rejected the hypothesis that no form of counseling reduced delinquency rates.

This is a careful empirical study with much to recommend it, but the results are hardly resounding for my purposes. First, the effects of counseling are very imprecisely estimated, which is to be expected given the poor fit of the first stage model. Even in the case of classroom counseling delivered by lenders (the one statistically significant coefficient), the standard error on the estimate indicates that the positive effect on delinquency rates could be either very minor to very large. In addition, one can argue that the estimated coefficients in the second stage regression might still be biased. Hirad and Zorn assume, for example, that age and gender are correlated with obtaining counseling and counseling type, but not correlated with unobservable variables (motivation, knowledge, parental support in a crisis, etc) that that might also be associated with delinquency outcomes. This is a strong assumption. Finally, the Hirad and Zorn results apply narrowly to mortgage delinquency rates, not to the impact of PFM education on the savings or credit histories of LMI households. I conclude that the results are suggestive for my purposes, but far from conclusive.

Staten, Elliehausen, and Lundquist

Michael Staten, Gregory Elliehausen, and Christopher Lundquist (2002) studied whether individuals who sought and received credit counseling from affiliates (known as "CCCS" counseling agencies) of the National Foundation for Credit Counseling in 1997 experienced larger improvements by 2000 in their Trans Union credit scores than similar individuals who did not seek this assistance. The researchers created a comparison group by using 1997 Trans Union credit reports to find individuals who lived in the same geographic regions as the counseled "treatment" group, and who had similar credit scores and similar incomes and

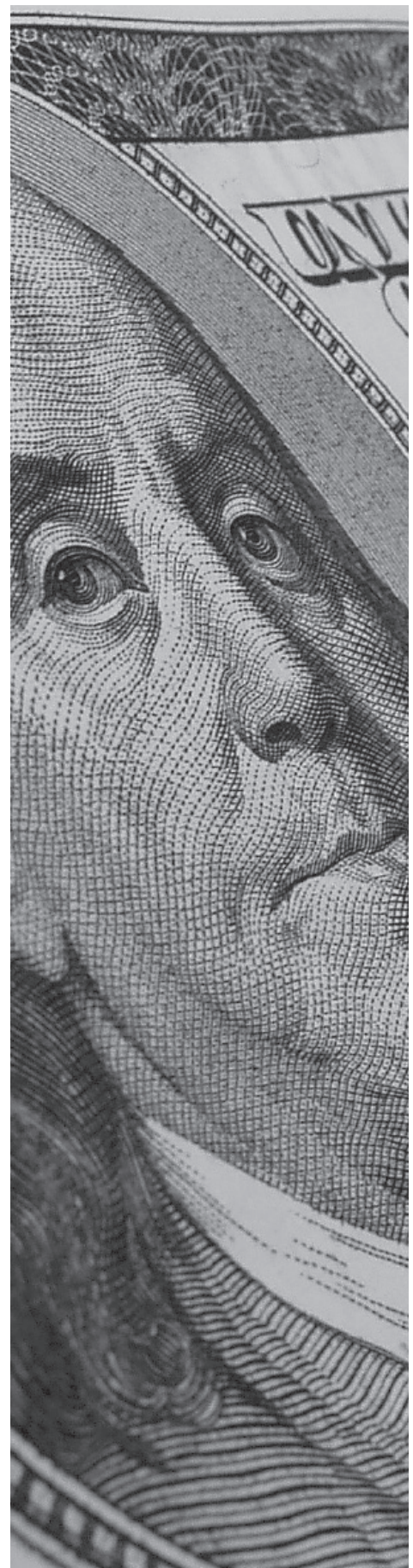
ages. They also verified that the members of comparison group had not obtained counseling in 1997 from a CCCS agency. Since Trans Union's credit bureau files have almost no demographic information on borrowers, the researchers had to geocode the address of the borrowers and assume that the median age and income of the census tract block group represented the age and income of the matched files. After cleaning their data, the final sample has 5,973 individuals in the treatment group and 5,514 in comparison group.

The researchers were well aware of the potential bias that might exist in simply comparing the change in credit scores between the treatment group and the matched group. After all, it could be that individuals who were much more highly motivated to improve their financial practices sought the counseling. The researchers addressed this issue by using a two-stage least squares regression. In applying this approach, the researchers use a variety of indicators of credit status, such as total debt, debt-to-household-income ratios, number of new credit inquiries, etc, to predict the probability that an individual sought counseling in 1997. In the second stage, they used the fitted probability of being counseled as an explanatory variable for the change in credit scores. In this regression, they found a statistically significant and positive link between the probability of being counseled and a subsequent improvement in credit score.

This study clearly suggests that PFM courses might change the behavior of LMI households with impaired credit histories, but the link is once again only suggestive. It is far from conclusive for two principal reasons. First, the study does not specifically focus on LMI households. Second, and more importantly, it is doubtful whether the explanatory variables that the researchers use in the first stage regression are uncorrelated with the unobserved factors, such as personal motivation, that might lead people to improve their credit situations. It is reasonable to think, in fact, that the indicators of financial distress that the researchers put on the right hand side of the first stage regression are positively correlated with the desire to change behavior. If so, the estimate of the positive coefficient on the probability of being counseled in the second stage regression could be seriously biased.

Bernheim and Garrett

Douglas Bernheim and Daniel Garrett (2003) used data from a household survey to investigate whether exposure to employer-provided financial education focusing on retirement increased household savings. The survey, conducted by telephone in 1994, covered 2,055 nationally



representative individuals between the ages of 30 and 48. The survey gathered a variety of socioeconomic data on the households and included questions on retirement education in the workplace and financial knowledge. Bernheim and Garrett contrasted the savings behavior and wealth of individuals who had worked at firms that provide financial education (the treatment group) to those of individuals who had not (the comparison group). They argue that whether an individual works for the former type of firm or the latter should be essentially random, i.e. one does not choose a workplace based on whether it provides financial education, so that the individuals in the treatment and comparison groups should have similar unobservable characteristics.

Controlling for 401(k) eligibility and a variety of other household and employer characteristics, the survey participants' reported higher rates of saving, both in general and for the purposes of retirement, when they had worked for firms that offered retirement education programs. This difference was statistically and economically significant. The median reported overall savings rate increase from about eight percent of income for households without employer-based retirement education to about 9.6 percent for households with employer-based retirement education. Somewhat paradoxically, Bernheim and Garrett found no evidence that working for an employer that offers financial education raises household wealth. When the dependent variable was the household's reported net wealth, the estimated coefficients on the availability of financial education at the workplace was negative, although not statically significant. The authors explain this result by suggesting that firms tend to introduce financial education when they believe that their workers are not saving sufficiently. They hypothesize that the education raises savings rates but the increased savings rates will not raise depressed wealth levels for many years.

These results are certainly consistent with the notion that PFM education might raise savings rates among LMI households, but the results are far from decisive. For one, the study did not focus on LMI households. Moreover, the results depend on the strong assumption that exposure to financial education was essentially random. But this is certainly open to doubt. It could be, for example, that stable firms tend to offer financial education and that people who are most future-oriented in their thinking are attracted to stable firms. If so, exposure to financial education would be associated with higher savings rates but would not cause the higher savings rates. Moreover, if people who seek employment at stable firms are more risk adverse than average and hold conservative investment portfolios, then their higher savings may not result in higher levels of wealth. This is just one possibility among many that could account for

the Bernheim and Garrett results where there would be a possible correlation between savings and exposure to financial education in the workplace without there being any causal link.

Bernheim, Garrett and Maki (2001)

Douglas Bernheim, Daniel Garrett, and Dean Maki (BGM)(2001) use data from a household survey to study the effects of high school financial education courses on subsequent adult savings rates and wealth accumulation. The BGM study is based on a 1995 telephone survey of 2,000 nationally representative households headed by individuals between the ages of 30 and 49. The survey collected information on a wide range of socioeconomic characteristics of the individuals and asked the participants to identify the state in which they attended high school. The authors matched the identified state to a list of fourteen states that had mandated, at the time the survey participants were in high school, that all students take a course covering topics in personal finance. Most of the states with such mandates imposed them in the 1970s. About 200 people in the survey attended high schools in such states. As in the study based on financial education in the workplace, the authors argue that exposure to the financial education mandate was essentially random. No one selected the state in which to attend high school based on the presence or absence of the mandate and, the authors argue, the states that imposed the financial education requirement did not differ systematically from those that did not.

Using regression analysis to control for a variety of other relevant factors, BGM find that individuals who attended high school in one of the states with mandated financial education courses reported statistically significant higher rates of savings and higher levels of asset accumulation than those who did not. But the effect appears only for those who went to high school a few years after the mandate was initiated. The authors explain this finding by hypothesizing that the school systems took a few years to implement and perfect the mandated courses. In any case, the results suggest that self-reported savings rates were 1.5 percentage points higher for those entering the affected high school grade five years after the imposition of the education mandate. 910 individuals provided net worth data in the survey, about ten percent of whom were exposed to the mandate. Those exposed to mandate reported net worth levels that were higher than those who were not exposed. The difference was approximately equivalent to one year's earnings.

These results suggest that PFM education can raise savings rates and wealth levels. But since the study did not focus on LMI individu-



als we can't be sure of their applicability to this population group. More importantly, however, the reliability of the results depends critically on the assumption that any relevant unobserved characteristics are equally distributed across the treatment and comparison groups. This assumption is open to serious doubt. Household wealth levels differ substantially across the states as do attitudes about politics, religion, and, presumably, proper financial behavior.² In fact, a footnote in the study by Staten, Elliehausen, and Lundquist (p.16) notes that there are significant differences across the states in consumers' borrowing and payment behavior. For any fourteen randomly selected states, it would not be surprising to find that reported individual wealth levels or saving rates differed from those in other states, even after controlling for the incomes, ages, and some other readily available demographic variables.³ These considerations lead me to conclude that the BGM results are suggestive of a possible impact of financial education on behavior, but far from conclusive.

Schreiner and Sherraden

Mark Schreiner and Michael Sherraden (2006) tested the effectiveness of PFM education in the context of 14 organizations that offered individual development accounts between 1997 and 2001. These 14 organizations, located in different regions of the country, tried to encourage LMI individuals to build savings for home purchases, education, to start a small business, or for retirement by offering to match the dollars that the individuals put into an account for these purposes. The match rates varied across the organizations as did many of the details of their operations, but all of the organizations required individuals participating in the IDA programs to complete PFM courses. These courses differed in their exact content and structure as well as the number of hours of required instruction. One organization required six hours of instruction, one required eight, four required ten hours, three required twelve, one required a sixteen, and one required 45. One organization did not provide sufficient data to be part of the study. All of the organizations, except the last one, generally enforced their requirements about hours of instruction. In the site where the requirement was not enforced, the typical IDA participant completed 9.2 hours of

2. The striking difference in wealth levels across the states is indicated in the raw data of the study. Individuals who attended high school in the fourteen states with the mandate reported a median net worth of \$93,000. Individuals in the comparison group reported a median net worth of \$75,250.

3. In fact the fourteen states are not randomly distributed geographically. They are clustered in five contiguous groups: one stretching from Florida to North Carolina; one encompassing Texas and New Mexico; one consisting of Oregon, Idaho, and Nevada; one with Illinois and Wisconsin; and one with Pennsylvania and Delaware. When the study was circulating as a working paper, I thought that the magnitudes of the estimated results were implausible, and I asked Douglas Bernheim to provide me with the raw data so I could investigate the sensitivity of the results to other specifications. He told me that the data set was the property of Merrill Lynch and referred me to an individual in that company. That person, in turn, told me that the data were no longer available, so BGM's results cannot be duplicated or tested for sensitivity to alternative specifications by other researchers.

instruction. In the twelve other sites, 80 to 90 percent of the almost 1,000 IDA participants completed all of the required hours of instruction. Those who fell short usually did so by only an hour or two.

Schreiner and Sherraden test for the effects of financial education on IDA savings balances by running a cross sectional regression where individual's observed savings is the dependent variable. The explanatory variables are seven characteristics of the programs (match rates, imposed caps on matches, the number of months during which a participant can make a matchable deposit, etc), 35 socioeconomic characteristics of the individuals (age, gender, education, income, etc) and the number of hours of completed PFM education. Since Schreiner and Sherraden want to allow for a nonlinear relationship between hours of education and savings, they use a spline function for the hours of education. They argue that the motivation of the individuals should not bias the estimated coefficients on the hours of education since the organizations, not the individuals, determined the number of instructional hours. The regression results indicate that each additional hour of PFM education, up to ten hours, was associated with a \$1.16 increase in monthly net IDA savings and this relationship was statistically significant. Hours of instruction beyond ten did not, however, have a statistically significant impact on saving rates.

As in the case of the other studies, Schreiner and Sherraden's results support the notion that PFM education can raise saving rates among LMI individuals, but they are far from definitive. Since only four organizations required fewer than ten hours of PFM instruction, the results must be driven almost entirely by the observed savings of the participants in these four sites. Saving rates and required hours of instruction could have been lower in these four sites for a variety of reasons. It could be, for example, that the organizations in these sites required fewer hours of PFM education because their staff could not spare the time for a more intensive effort. It could be that savings rates were lower because the staff in these sites did not use as much one-on-one moral suasion encouraging participants to save. One can imagine a variety of such explanations that could account for Schreiner and Sherraden's results. Moreover, strictly speaking, their results apply only to participants in IDA programs, not to LMI individuals who are not also offered a match for their savings.

V. Conclusion

I conclude that the best empirical studies to date suggest that personal financial management education can help low- and moderate -income households to build savings and improve credit histories. But the findings



are only suggestive. The studies reviewed in this paper use non-experimental approaches and must rely on strong, but unverifiable, assumptions to identify the impact of financial education. Furthermore, some of the studies reviewed in this paper address the link between financial education and mortgage delinquencies or the savings of middle-income households. Even highly reliable results from such studies would only be suggestive of a link between PFM education and the financial behavior of LMI individuals. Clearly, there is a need for high quality random assignment studies that can provide much stronger evidence for the impact that PFM education can have on the savings and credit histories of low- and moderate-income households. Given the prominence of personal financial management courses as a means of addressing the financial problems of LMI households, such studies should be a priority.

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Financial Literacy Strategies: Where Do We Go From Here?

by Robert I. Lerman & Elizabeth Bell

The evolution of market economies has dramatically broadened the opportunities of consumers, workers, investors, and firms. The sheer variety of goods and services that are easily accessible (for a price) would be breathtaking to people living just a century ago. At the same time, the multitude of choices can be bewildering. Increasingly, taking best advantage of available opportunities places heavy demands on the ability of actors to make sensible choices. The rising complexity affects nearly all market decisions, from choices about food, whether consumed at home or in restaurants; to choices about clothing, electronic equipment, transportation, and housing; to choices about career pathways; and to choices about saving and investing.

Viewed in this light, the widening array of alternatives in the financial marketplace is part of the larger process operating in the economy as a whole. Nonetheless, financial decisions are particularly vexing to many of today's families and to many business people as well. Perhaps the confusion has arisen because of the speed at which financial markets and new financial instruments have emerged or because of the higher levels of sophistication and the longer time horizons required for sound financial decisions. Moreover, the added complexity is taking place just as house-

holds face increased responsibilities for financial decisions and for insuring their own financial well-being. As lengthening life spans are making retirement planning a higher priority, the shift from defined benefit to defined contribution pensions is increasing both the freedom and responsibility of workers to make choices. The expanding availability of credit options is providing individuals with more capacity to invest in education and owner-occupied housing and to separate the timing of consumption from the timing of income. At the same time, bad decisions can mire households in debt and lead to much lower living standards than they could afford had their financial decisions been more sensible.

For the new financial freedom to help most people, it is essential that they understand their choices and the likely implications of alternative choices. Unfortunately, many Americans have a weak grasp of basic personal finance principles. One survey covering overall financial concepts found that nearly two-thirds of American adults and students did not know that money loses its value in times of inflation. General attitudes towards spending and saving behavior are troubling as well. Results from another survey revealed that only a quarter of Americans feel very well informed about managing household finances (Jump\$tart 2004). Low-income families are especially vulnerable to misinformation.

What is lacking is not information (who is charging what?), but rather the ability to interpret the information (how well do alternative mortgages strategies fit my needs?). Many people even seem unable to recognize the high future burden they will experience by borrowing at very high interest rates. Without knowing all of the circumstances of individual cases, it is difficult to determine how many people are making very poor decisions. But, given the apparently weak financial knowledge of a large segment of the population, the high rates of consumer bankruptcy, and the large share of the population poorly prepared for retirement, there are reasons for concern.

Financial Education and Financial Literacy Programs

Recognizing the importance of knowledge about financial decisions, a number of public agencies, private foundations, school systems, and employers have begun to sponsor financial literacy programs. The Congress passed Title V of the Fair and Accurate Credit Transaction Act (FACT Act), which established the Financial Literacy and Education Commission with the purpose of improving the financial literacy and education of persons in the United States. The US Department of the Treasury's Office of Financial Education is the lead agency charged with



coordinating financial literacy efforts within the executive branch of the Federal government. The Federal Reserve Board posts a great deal of material that programs and individuals can use to foster financial education relating to bank accounts, consumer credit, mortgages, leasing vehicles and personal finance. In addition, Federal Reserve banks around the country sponsor education programs on a variety of topics, including the Money Smart program, created by the Federal Deposit Insurance Corporation (FDIC). Some private financial institutions target clients or potential clients. Visa and the American Bankers Association offer financial education programs free to educators, consumers, and bankers. The Jump\$tart Coalition focuses on students, while the National Community Reinvestment Coalition tries to reach low-to-moderate income people. Some financial education programs are attached to other asset-building initiatives, such as homeownership programs (Braunstein and Welch 2002) and savings programs like Individual Development Accounts (IDAs) for low-income individuals (Schreiner, Clancy, and Sherraden 2002).

The concerns over insuring adequate financial literacy are not unique to the US. Recently, the OECD (2005) published a report, *Improving Financial Literacy*, that defines financial education, examines the state of financial knowledge in various countries, assesses financial education for retirement saving and credit and debt, and suggests future directions. The report finds that financial literacy is a widespread problem, reaching most countries, certainly those on which there are reliable data (Japan, Korea, Australia, and the US). Although many countries have financial education programs, few have been well evaluated (for a US overview, see Lyons et al 2005). The report also points out that, in some cases, financial education should not be the only tool for improving financial decisions. Affecting some decisions can require countering such behavioral factors as inertia and lack of will power with automatic mechanisms, like default enrollment of individuals in pension programs unless they opt out.

Financial Education in High Schools

The returns to a well-designed financial education program might be quite high. If a one semester course at the high school level—or about 10 percent of a year's schooling—led to only a 0.5 percent improvement in financial well-being, the returns would rival the 6-7 percent rates of returns to earnings from a full year of schooling. One likely and unusually unnoted side effect of financial education is the improved job readiness of students.

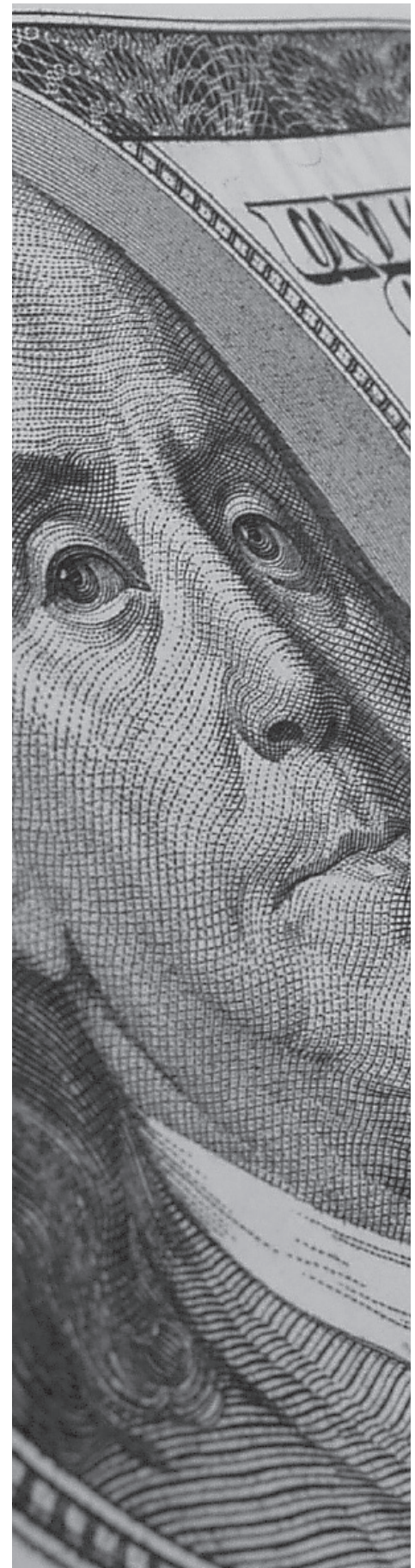
Financial literacy proponents often see high school students as one of the most appropriate populations to educate. Mandatory atten-

dance makes students a captive audience and, importantly, a young one. Ingraining savings behavior in students might well decrease the financial mistakes they may make later in life. High school curriculums provide a ready-made infrastructure for reaching a wide audience with relative ease (at least compared with community groups and other organizations, which need to spend some effort reaching out to their intended populations (Morton 2005)). And few dispute the gap in financial education of students. The need for financial education among these students, according to available data, is great. A Visa USA 2004 survey found that 56% of parents believe that high school graduates are “totally unprepared” to manage their personal finances responsibly; another survey found that only 20% of teens think that their knowledge of money management is either good or excellent; and another reports that only 35% of students say they learn about money management in school (Jump\$start 2005). Average financial literacy scores on the Jump\$start survey of 12th graders declined from 1997 to 2004. Surprisingly, scores vary little with ownership of securities, with having a bank account, and with the extent to which students discuss money matters with parents.

Partly in response to these trends, public school curriculum requirements have increased over time. As of 2004, forty-nine states required economics in their curricular standards and fifteen states required that students take an economics course to graduate. Thirty-eight states reported the mandatory inclusion of personal finance standards, while seven of these states made personal finance a graduation requirement.

Despite these increased efforts, questions remain about what share of high school students are exposed to financial education programs and whether such programs lead to increased financial knowledge or more responsible financial behavior. Much of the short-run analysis of financial education among high school students has been conducted by Lewis Mandell of the University of Buffalo, who manages the Jump\$start survey. Among other results, Mandell (2005) examined the relationship between financial literacy programs, financial knowledge, and saving behavior. He found that financial education and experience do not appear related to financial literacy, what he calls a “...very disheartening result, particularly among financial educators who believe that a solution to the problem of financial illiteracy is personal finance education, particularly if it is standardized, mandated and tested” (2005 p. 7).

Other evidence suggests a more optimistic picture. According to an evaluation of the High School Financial Planning Program sponsored by the National Endowment for Financial Education (NEFE), students taking the program reported significant improvement in their financial knowl-



edge at least up to three months later. Teacher surveys of student knowledge taken before and after the program curriculum indicate that students improved their knowledge of critical areas, including understanding of the career/income relationship, consumer credit, car insurance, and the time value of money. Moreover, about 60 percent reported changing their savings behavior (increasing savings) as a result of the program (Boyce and Danes 1998).

Mixed evidence emerges from another study of financial education impacts. A multivariate analysis performed by Mandell (2005a) showed that a full course in personal finance did not affect financial literacy, but discernibly raised self-reported levels of thrift as well as actual indicators of thrift, including having a savings account.

The positive impact of financial education on behavior may even persist for a long time. Using surveys of 30-49 year-olds in 1995, Bernheim, Garrett and Maki (2001) looked at the impacts of the presence and timing of state mandated financial education requirements. They found the requirements led to more students taking financial education and, subsequently, higher savings and net worth. Self-reported savings rates were approximately 1.5 percent higher for students entering a high school grade five years after the imposition of a financial education mandate than for students not present when this mandate was instituted. Compared to the overall population, the rate of saving out of income for students exposed to the mandate was 4.75 percent higher in the population distribution than for those who were not. Net worth, albeit much more difficult to measure, increased by roughly one year's worth of earnings for students exposed to the mandate, whose net-worth-to-earnings ratio was also 9 percent higher than students who were not exposed.

These surprisingly large impacts suggest that financial knowledge imparted on the young may continue into middle-age. Garrett and Maki's (2001) long-run conclusions bring a kind of consistency to the Jump\$tart survey results—financial education, while not affecting financial knowledge, sometimes affects financial behavior, even later in life, when the chances to apply this education through experience increase (Mandell 2005a).

However, financial literacy levels remain low, especially for the less-educated and low-income populations in the US and other countries (OECD 2005). Survey evidence on both financial education and financial practices suggests American adults need help. In 2004, between 25 and 56 million adults were unbanked (Jump\$tart 2005) and consumer debt is now equal to 110% of disposable income (Jump\$tart 2004). A survey conducted by FleetBoston in 2003 found that only 27% of respondents felt

well-informed about managing their household finances, and fewer than half felt they were a good role model for their children regarding spending and saving (Jump\$tart 2005). These results are especially disturbing given the fact that many individuals rely on the experiences of family and friends to shape their financial knowledge and behavior (see, for example, Horton 2005; Hilgert and Hogarth 2003).

The OECD reports that consumers very often feel more confident than their knowledge justifies, implying the need to help consumers to recognize the limits of their information and the desirability of learning more.

Perspectives on the Content of Financial Education Programs

Since financial education programs seem to raise savings, why not simply expand them? One reason is the naturally uneasy feeling about evidence suggesting that financial education increases savings but does not raise financial literacy. If people are no better informed about financial matters, why does a class influence them to save more? Moreover, might weaknesses in knowledge lead to later financial blunders in any event? Before doing more to promote or require financial education programs, we should develop ways to improve their effectiveness and their accuracy. The flawed nature of some questions on tests of financial literacy is a warning sign about the material being taught.¹ We should strive for effective teaching methods of content that is correct, not misleading, and that will lead to sound decisions about matters relevant to those taking the courses.

But, how do we get there? The first step should be to be clear about the goals of the financial education and potential tradeoffs. Is the primary goal to increase financial knowledge or to influence financial decisions? Although ideally financial education programs would achieve both, the approach may vary, depending on which goal we wish to emphasize.

A focus on educational outcomes usually involves teaching high school students about an ambitious set of topics and using standardized tests to determine student learning. The list of topics varies from one standard to another, but often includes complex issues such as “dollar cost averaging” and difficult concepts involved in reading the prospectus of mutual funds.

¹ Consider, for example, the following question taken from a poll commissioned by the National Commission on Economic Education (2005). Respondents are asked to complete the sentence, “The existence of the stock market...” The correct answer from multiple choices is “...brings people together who want to buy stocks with people who want to sell stocks.” This is either trivial or misleading.



One strength of the approach is that high school students are a captive, nearly universal audience for the education effort. Another is that introducing the concepts at this stage of life may prevent early and long-lasting mistakes and prevent bad habits from developing. On the other hand, some curricula include lessons that are incorrect and few teachers are well qualified to teach financial topics to high school students. As noted above, the evidence suggests that even students completing the programs have little gain in their knowledge of financial realities. Limited success in the past is no reason to abandon the effort. Of the many potential topics taught in high school, the basics of economics and personal finance should rank very high. But, no one should underestimate the challenge of insuring teachers are properly prepared and that what they teach is properly vetted and sensibly limited to important, accessible topics.

A second perspective is to focus directly on the goal of affecting financial decisions and financial outcomes. The emphasis would be on issues of clear relevance to the students or of relevance in the immediate future. The teaching approach would involve a great deal of hands-on learning and would raise financial topics as partly a means to personal goals. In discussing retirement issues, the teachers could begin with the payroll stubs of students and explain the rationale for FICA taxes and describe how their (and their employers') contributions in the form of FICA taxes are part of an intergenerational compact that will qualify them for a retirement income. A class for high school students could consider financial decisions of likely relevance. A car is an asset most students would like to have and might buy in the near future. The lessons could deal with the costs of car ownership (including gas, upkeep, and insurance), and the benefits of car ownership, the advisability of financing the car purchase with credit, the car as a durable good and why credit might make sense in a car purchase but not in borrowing for basic living expenses. The discussion of car insurance would provide a good opportunity for students to learn broad concepts that have direct applicability to their lives. If well-treated and examined in some depth in which students themselves work out various calculations, one would expect that students will likely to remember and use this information.

How to examine the financial consequences of human capital investment and career decisions should be central to any program for high school students. These matters are complicated but working out calculations illustrating the potential returns to investing in oneself may be the most important element of financial education. Again, care must be taken to avoid giving students misleading or incorrect information. For example, studies typically report the returns to college among those attending college and not the returns to the marginal student. Still, students should see human capital investments as similar to financial investments in terms of

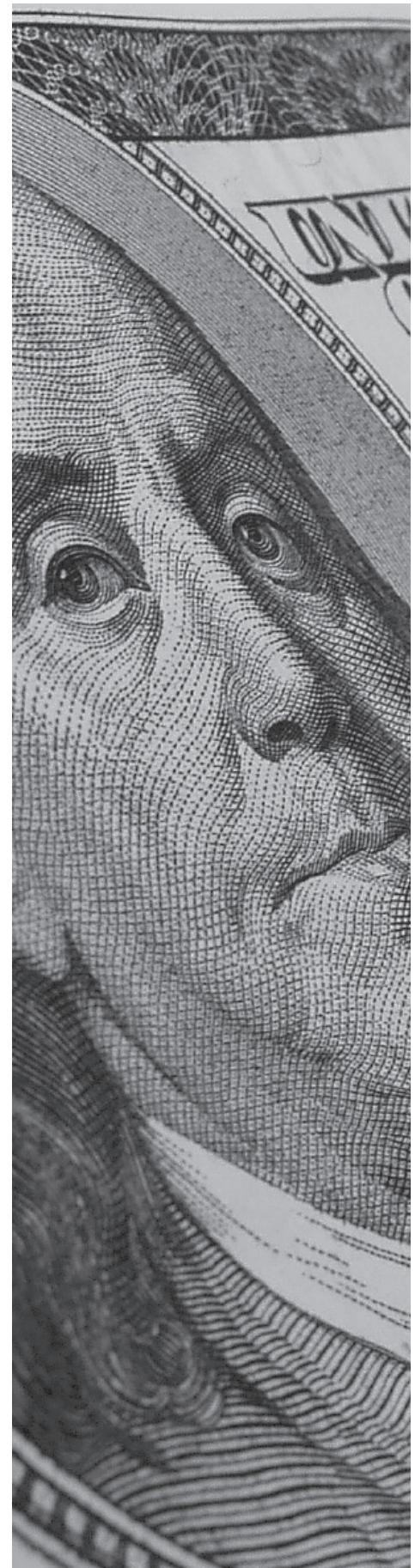
meeting living standards over the long-term. The lessons should illustrate why borrowing to fund human capital investments may be appropriate, given the durable nature of increased human capital.

We realize that examples of this kind are already included in high school curricula. But, they are too often embedded in long lists of desirable finance standards that include topics quite distant from the lives of students and quite abstract. A focused approach on a limited number of highly relevant topics may prove more effective.

The general approach of focusing training on real life experiences can and should be extended beyond high schools. Training should consider a variety of key transition points, such as buying a home, moving out of a parent's home, taking a student loan, taking a small business loan, and starting a job and facing options for pensions and health insurance. Often, programs already exist for providing financial education linked to such decisions, but they may not reach an important segment of the population. Linking financial training with the timing of decisions takes place in many venues. They include community organizations, employers, welfare programs, credit unions, and, most recently, as part of programs offering Individual Development Accounts. Ideally, programs in these venues should identify the most important issues that arise at various decision points and help people avoid mistakes and missed opportunities.

One extension beyond educating people at decision points is to link education with steps that deal directly with behavior. For example, instead of simply discussing the reasons why people should have bank accounts, programs have made agreements with banks to provide special account options and to sign up people at the site. Other programs take a recess, give bus fare and directions to participants, and have them open accounts at specific moments. Another innovation becoming widely known is the use of default options to encourage savings and safe investments. Some employers are enrolling new workers in 401(k) pension programs when they start work and require them to take concrete steps to opt-out of such arrangements. Other approaches involve having people commit in advance to allocating a portion of their future salary increases toward retirement savings. Thaler and Benartzi (2004) find, in one implementation of this plan through four annual raises, that 78 percent of those offered the plan joined, that most remained in the plan through the fourth pay raise, and that the average saving rates increased in response to participation by from 3.5 percent to 13.6 percent over the course of 40 months.

Although evidence is scanty, some studies have attempted to examine the impact of providing education at these "teachable moments" (times when people are about to make a specific financial decision). Others have



emphasized behavioral strategies, especially at key decision points. We now turn to studies of these approaches.

Evidence on Effects of Financial Education at Teachable Moments

Since experience seems to be an important component of education, linking financial learning to “teachable moments” might well do the most to increase the knowledge and improve the quality of financial decisions of individuals. Currently, organizations are reaching out to individuals and households by providing training based on specific transactions, such as purchasing a home or vehicle, or applying for credit. For example, 93 percent of banks in a recent Consumer Bankers Association survey reported that they require credit counseling when individuals apply for mortgage lending programs (Morton 2005). Employers can also offer financial education in conjunction with participation in a retirement plan.

Despite the promising opportunities these programs offer, the fact remains that reaching out to individuals or households via the “teachable moments” platform is difficult. Since the type of transactions that support “teachable moments” education are more oriented towards adults than high school students, the groups that need financial education are more likely to have very different cultural and financial experiences and work and family demands (Morton 2005). In addition, given the large amount of unbanked adults in the United States, a lack of relevant venues may prevent even the most targeted education programs from reaching their ideal audience (Burhouse, Grambell and Harris 2004).

One piece of recent evidence for high school seniors calls the “teachable moments” strategy into question. In a study using the Jump\$tart surveys, Mandell (2006) compared the responses of students who had taken a course in personal finance with those who had not, grouping the responses of students by whether or not they have had first-hand financial experiences. He examined eleven questions that directly relate to the experiences of high school seniors, such as the use of credit and debit cards, vehicle financing, and higher education expenses. He found no systematic relationship between course-related improvements in financial knowledge and financial experience, such as having a credit card, a checking account, and a car. Although on some dimensions students with financial experience learned more from courses than did the overall youth population, other tested topics (like debit cards) either showed mixed results or results that ran against the hypothesis that Mandell calls “Just-in-Time Instruction.” Mandell concludes that, at least for high school students, “relevance by itself is not the answer” (p. 9a) to improving financial knowledge and/or behavior.

But, this conclusion may itself be incorrect. Mandell admits that we know little or nothing about what was taught in these courses. Perhaps, the courses did not address the issues appearing on tests or did so in an ineffective manner. Moreover, the questions used to judge knowledge could have varying interpretations. For example, consider the question “If you had a savings account at a bank, which of the following would be correct concerning the interest that you would earn on this account?” The testmakers apparently view as incorrect the answer that “Earnings from savings account interest may not be taxed.” In fact, interest earnings for those below the tax threshold (which may be the case for many students) will go untaxed while earnings from work are taxed from the first dollar. Finally, the Mandell analysis does not examine whether or not well-executed courses aimed at affecting immediate financial choices and behavior actually do so.

Several other studies on targeted counseling speak more directly to the “teachable moment” hypothesis. Hiram and Zorn (2001), for example, examined data on approximately 40,000 mortgages under Freddie Mac’s Affordable Gold program to determine whether pre-purchase homeownership counseling programs lower mortgage delinquency rates. The authors found that borrowers who receive counseling are about 13% less likely to become 60-day delinquent than borrowers with equivalent characteristics who did not. While the authors did not examine the affect of counseling on the timing of delinquency or the severity of any loss that may occur, they conclude that pre-purchase homeownership counseling can increase the success of lending programs.

Elliehausen, Lundquist and Staten (2003) explored the impact of credit counseling on subsequent borrower behavior. Analyzing ten different measures of borrower credit performance, they came to the conclusion that borrowers who received counseling “generally improved their credit profile” over the three years following instruction more than similar borrowers who did not undergo counseling. Specifically, counseling had a positive impact on creditworthiness, cultivated improved financial behaviors regarding credit characteristics like total debt, account balances and bank card usage, and lowered delinquency experiences.

Evaluations of workplace programs also show that financial education positively influences savings. In examining the effects of financial education in the workplace, Bayer, Bernheim, and Scholz (1996) find that participation in and contributions to voluntary savings plans increase when employers offer retirement seminars. Further, this effect is even more pronounced in lower-income populations. For lower-wage employees, frequent seminars offered with retirement plans result in a participation



rate that is 11.5 percent higher than for those plans without seminars. For highly compensated employees, there is a 6.4 percent difference. Kim, Kratzer and Leech (2001) supported this finding, noting that employees who received financial education counseling increased their 401(k) participation. The effectiveness of these programs was likely the result of combining financial education with a direct institutional outlet for applying it.

In a study of older individuals, Lusardi (2004) examines the impact on financial and total worth of attending a meeting on retirement or retirement planning organized by their spouse's employer. She finds large impacts, especially among those at the bottom of the net worth distribution. Their net worth rises by close to 30 percent as a result of behaviors in response to attending a retirement seminar.

Other studies report favorable behavioral results from financial education programs linked to services for low-income households. In an evaluation of the American Dream Demonstration and IDA participants, Schreiner and his colleagues (2002) show that, in conjunction with saving through the IDA program, participants who also took financial literacy courses contributed higher net monthly savings deposits. In addition, classes did not need to be very long—the authors report about 8 to 10 hours—to take advantage of potential savings benefits.

Attaching financial literacy programs to other welfare programs may be one of the best strategies for reaching the unbanked population, although program participants will still, to some extent, be self-selecting. One study dealing with program impacts on financial literacy examined a program operating in the context of an existing social welfare program. The Illinois Department of Human Services, along with the Financial Links for Low-Income People (FLLIP) coalition, recently created personal finance and asset-building programs under the state's Temporary Assistance for Needy Families system. Using the financial education curricula developed by FLLIP, several nonprofit organizations offered a free, 12-hour financial education course for Illinois welfare recipients and adults with children under 18 and incomes up to 200 percent of the federal poverty level. The curriculum covered an array of topics, from spending choices and understanding credit, debt, and taxes to using financial institutions, insurance, and job benefits. In addition, FLLIP sponsored an IDA program that included a 10-hour financial education course and 6 hours of asset-specific training. A summary evaluation noted that about one-third of participants did not "graduate" from the training program, and that non-completion rates were nearly three times higher at the "education-only" sites than at the IDA sites. Follow up surveys indicated that participants improved their budgeting, payment, credit card and loan practices (Anderson, Scott and Zhan 2004).

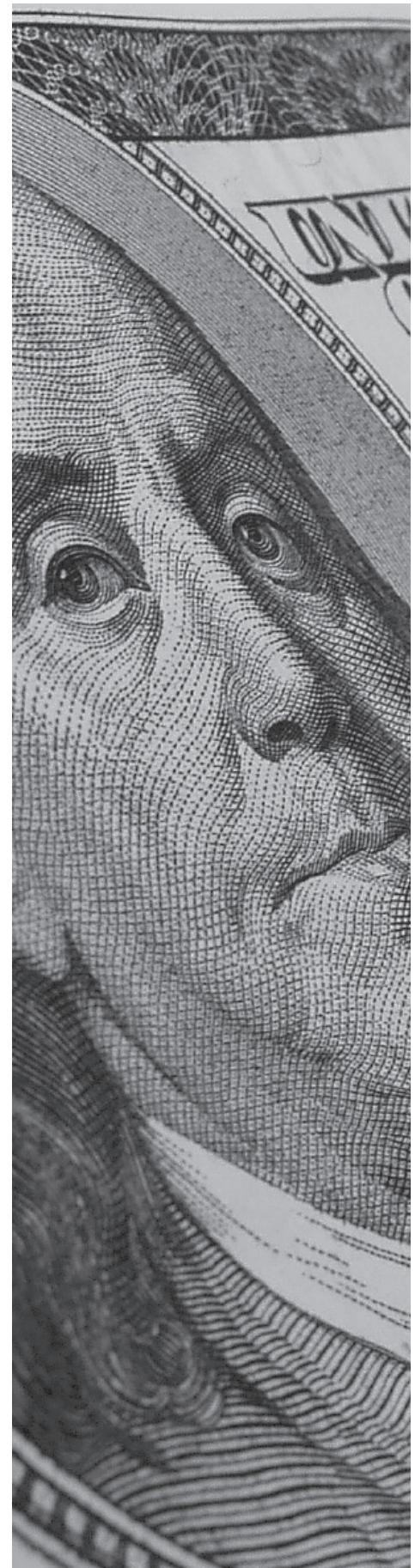
Implications for the Future of Financial Education


Finance can be a complicated subject involving sophisticated mathematics, a deep understanding of economics, and a recognition that psychological factors influence actual choices in the context of risk. Few can comprehend the complex models that optimize portfolios to achieve the most favorable risk-return tradeoff. And yet, in modern economies, people must make frequent decisions embodying important financial concepts. They must choose when and how much to borrow, when and how much to save, whether to buy and how to finance purchases of homes and consumer durables, and how to plan for uncertain contingencies and for retirement. Of course, the largest impacts of these decisions fall on the individuals making them and their families. However, the general public is often affected as well, because bad decisions will worsen the plight of many families and arouse altruistic concerns, will require added taxes to care for such families, and will increase external costs, by raising risks and associated interest rates and by requiring more use of legal and other social resources to deal with bankruptcies.

While the reliance on individuals to make their own financial decisions is increasing in most modern economies, the worry is that too many individuals are ill-prepared. It is not surprising that many governments are trying to increase the financial knowledge of their citizens.

The question is, what approaches can best promote financial knowledge and sound financial decisions? A sensible education approach must delineate which skills are necessary for every adult to master, which provide a framework for adults to engage in continuous learning, and which skills require financial specialists. We would suggest selecting a modest number of important topics that all students and adults can learn well instead of trying to deliver an ambitious agenda of financial concepts. Ideally, the selected topics would have relevance to the students and would allow for learning-by-doing and behavioral approaches that not only improve knowledge and but also stimulate people to choose wisely.

In our view, the specific topics and behavioral strategies should vary with the target group. For example, high school students might focus on the concepts of time horizons, comparing borrowing rates and rates of return, and common life cycle choices. Applications of these concepts could involve decisions about investing in human capital, including financing requirements; purchasing, financing, and maintaining a car; and how withholding funds from their wages for payroll taxes both transfers funds to the elderly and disabled and helps them qualify for disability and survivors insurance and retirement benefits.





Education concerning credit and debt issues can be critical for helping people avoid excess indebtedness, mortgage delinquencies and foreclosures, bankruptcies and borrowing that is excessively costly. The proliferation of credit and debt instruments, often with extensive information from written provisions and salespeople, can overwhelm borrowers. The OECD (2005) suggests designing at least two program approaches, one on the basics of budget management and a second, for people who understand credit to some extent, dealing with how to choose among credit instruments. Another suggestion is to build up the confidence of consumers so they can challenge financial intermediaries about the credit provisions in various contracts. Doing so will require programs that simplify financial concepts and make them apply to real life situations.

One major challenge is how best to develop financial literacy policies for often marginal, “unbanked” members of society. The OECD (2005) points to community-based programs, delivered in informal environments with local trainers, as having the potential for drawing more low-income people into the financial mainstream. The report favors trying to convince individuals about the advantages of having a bank account and then following up with direct help for people to set up accounts and with ongoing budget management training. The approach should emphasize preventing mistakes and promoting long-term learning. One potential problem not addressed in the OECD study is the presence of asset limits in public benefit programs that might discourage savings (see Chen and Lerman 2005).

As the US and other countries move forward to expand financial education and to encourage behavioral change, it is important to develop a serious research and evaluation effort (Lyons et al 2005). There are already large numbers of programs offering training in financial literacy. But, which are providing cost-effective services, both in terms of improving knowledge and financial decisions? Some experimental studies have been conducted, but without plans for replicating the findings and diffusing the activities. The US Department of the Treasury, which has responsibility for improving financial literacy, should partner with foundations, the Federal Reserve, and a few private sector organizations dealing with financial literacy to produce a serious research and evaluation plan linked to long-term goals and actions. The evaluations should include experimental and non-experimental techniques and should deal with costs, knowledge impacts, and impacts on behavior. Where appropriate, the financial education programs should be linked with other initiatives aimed at helping people achieve a decent living standard. These might include programs aimed at teen pregnancy prevention, marriage and relationship skills training, and preventing criminal behavior. Whether provided alone or in com-

ination with other initiatives, financial literacy programs have the potential to achieve significant and cost-effective improvements in economic welfare.

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Financial Literacy and Financial Education: Review and Policy Implications

by Annamaria Lusardi

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 objec-

tive 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.

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 bond 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.

1. See OECD, 2005.



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\$tart 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.

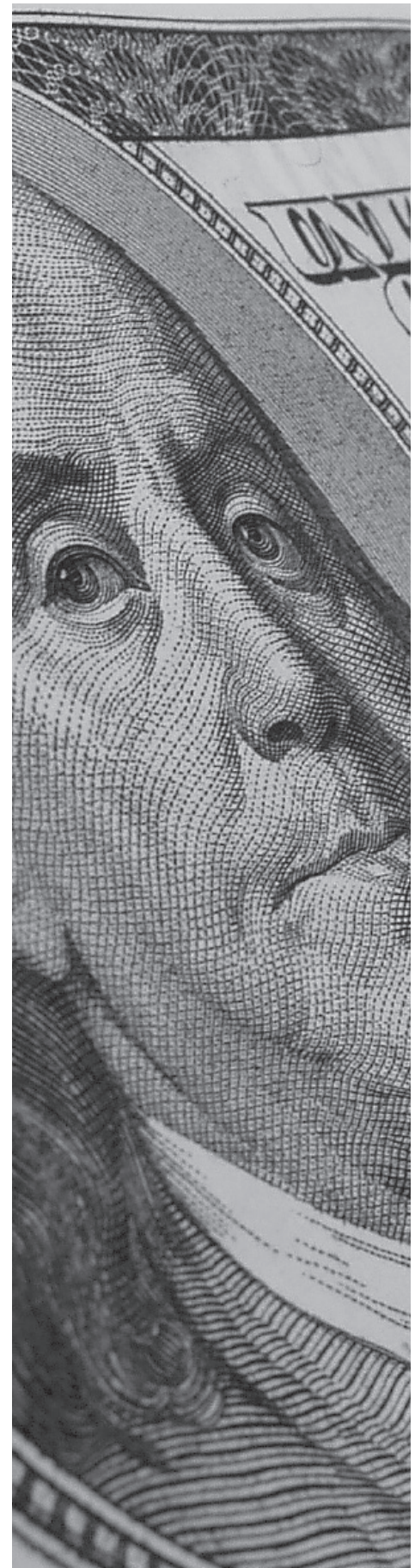
2.1 Financial Literacy: International Evidence

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\$tart 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.

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.'

2. See OECD, 2005.



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 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

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).

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

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

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

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.



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 Sodini (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.

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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Financial Literacy: If It's So Important, Why Isn't It Improving?

by Lewis Mandell

Definition

From the inception of my research in financial literacy in 1995, my working definition has been that financial literacy is what people must know in order to make important financial decisions in their own best interest. Since my specialization in financial literacy has been that of young people, primarily high school seniors, my working definition appears to be somewhat inadequate. High school students who are 17 or 18 years old tend to not make many important financial decisions and, as a result, tend to not to retain much of what they learn in formal courses about buying a house, investing in securities, purchasing insurance or saving for retirement.

This disconnect causes a lot of problems for well-meaning adults who want our youngsters to be financially literate enough to avoid severe difficulties. They know that it is virtually impossible to reach people who have completed their mandatory school years with education that takes more than a few minutes to impart. Yet this does not stop them from hoping that mandatory high school classes will deliver financial literacy that is "sticky" enough to persevere to adulthood.

Importance

Financial literacy is important at many levels. Certainly, it is most important for the individual who must make complex and expensive financial decisions on behalf of him/herself and of dependents. Bad decisions can cause a great deal of misery, and recent changes to the Federal bankruptcy statutes extend these consequences to a wider population (Mecham, 2005)

If, as appears to be the case, those with higher incomes and greater wealth are more financially literate than those with fewer resources, financial welfare which is a product of the two, is likely to be more unevenly distributed in the population than either income or wealth. This could ultimately lead to calls for massive re-regulation in an attempt to give government protection to consumers who are incapable of protecting themselves. In addition, if those with low levels of financial welfare perceive themselves to be part of a large segment of the population, they may perceive that they have been given an implicit social put option which will enable them to throw themselves on the mercy of the government if, for example, their lack of savings leaves them incapable of supporting themselves in retirement.

Today's negative aggregate consumer savings rates may already reflect a belief in the availability of this put option. In any event, the consequence of low U.S. savings rates hinders capital development and contributes to our massive trade deficit which increases foreign ownership of our assets and claims on our future national income. This, in turn, will further lower financial welfare of our citizens in the future.

Finally, a lack of financial literacy may well distort our financial markets. Those who specialize in behavioral finance demonstrate seemingly irrational investor behavior, such as refusing to sell a losing stock or getting caught up in the "irrational exuberance" of market bubbles (see, for example, Kahneman and Tversky, 1979). While psychologists can explain why people tend to behave in these patterns, those of us who are educators believe that appropriate education or "financial literacy" may help reduce the impact of this behavior. This is not dissimilar to nutritionists who can help us overcome our "natural" tendency to overeat.



Assessment of Financial Literacy

It is possible to assess the level of financial literacy in any population. However, it is far more difficult to assign meaning and importance to these assessments (Lyons, et al 2006).

I specialize in measuring the financial literacy of high school seniors. We chose this group because we believed that this was the last time in the lives of our young that we could compel them to learn anything. Very few college students elect to take a course that will improve financial literacy and after college, people cannot be compelled to sit down and concentrate long enough to learn what they must know to look out for themselves.

Every two years, a stratified, random national sample of thousands of 12th graders sits down to take the Jump\$tart Survey of Financial Literacy. Aside from cosmetic changes, such as reordering questions and answers and changing names in problems, the test has been unchanged since 1997. This enables us to see what is happening to financial literacy in this critical segment of our population (Mandell, 1998, 2001, 2003, 2004).

What is happening is not pretty! Financial literacy, measured as the proportion of age-appropriate, generally case-oriented financial questions answered correctly, declined from about 57% in 1997 to about 50% in 2002. There was a slight increase in 2004 and we await the results of the 2006 survey, but do not expect to see a dramatic increase in literacy in spite of widespread popular and political concern. The Jump\$tart survey has been replicated in several other countries and similar studies have been made by other organizations, but no one has yet contradicted the overall findings of low levels of financial literacy (OECD, 2005).

Perhaps more distressing than low levels of financial literacy is the consistent finding that those who have taken a high school class designed to improve financial literacy tend to do no better or little better than those who have not had such a course (Mandell, 2004). We do not doubt that the vast majority of students who take such a course attend classes, read the textbook and cram successfully for the final. Nor do we doubt that the teachers are dedicated and educated. We just find no connection between education and financial literacy, measured, in most cases, within a year after taking such a course.

Assessing the Impact of Classes in Financial Literacy

Professor Douglas Bernheim and his colleagues have presented findings that suggest a positive impact of financial literacy education on savings behavior. Using Merrill-Lynch account data for middle-aged investors, he found that those who spent their high school years in states that required a class that taught financial literacy tended to save a higher proportion of their incomes than those who were not required to take such a course (Bernheim, et al 2001).

These findings might suggest that a course related to financial literacy might cause a change in attitudes, if not necessarily in financial literacy, per se. An alternative hypothesis might be that those who were in high school 30 or more years ago might have learned in a more compelling environment and may have emerged from this education more financially literate.

In order to assess whether today's classes in financial literacy result in "beneficial" attitudinal or behavioral changes, this author did two pieces of analysis. The first was on the 2004 Jump\$tart data which, for the first time, asked students to assess their own level of thrift from "very thrifty, saving money whenever I can" to "very spending-oriented, hardly ever saving money." Thrift was found to be slightly higher for those who took a course related to financial literacy but was not systematically related to financial literacy scores (Mandell, 2005).

A much smaller study was conducted with graduates in a small- to medium-sized Midwestern city which offered a well-regarded financial literacy program in their high schools. In this study we were able to follow a matched sample of high school graduates, half of whom took the course, for up to 5 years after graduation to observe the impact on financial literacy, thrift and financial behavior. The results were disappointing – those who had taken the course had no higher financial literacy scores, proclivity toward thrift or financial behavior scores (on not bouncing checks, missing credit card payments, etc.) than those who had not (Mandell, 2006).

Finally, some observers believe that "just-in-time" financial education is far more effective than general financial education. Translated to the high school level, this means that students would be taught to make decisions that are immediately relevant to them, such as using a checkbook (most did), choosing a credit card or selecting auto insurance.



Unfortunately, when we analyzed 11 Jump\$start questions relating to actual financial decisions made by students (who actually opened a checking or savings account, applied for a credit card or bought auto insurance), we found that classes in financial literacy made no difference in their specific knowledge relating to decisions they recently made (Mandell, 2006A).

Improving Financial Literacy

Thus far, we have found just one intervention that seems to improve financial literacy. Students who play the “stock market game” tend to have significantly higher financial literacy scores than those who don’t. This has been shown consistently over several studies, and the differential may even be growing.

We think the success of the stock market game relates to the fact that it is both highly interactive and fun. However, critics of the stock market game point out a flaw which is that the game rewards extreme risk-taking since you can’t win unless you go out on a limb with very volatile securities. In addition, since there is no penalty for losing all your money, the game might discourage risk-averse investing which forms the basis for strategic saving in our economy.

In fact, Jump\$start data show that while students who have played the stock market game are more financially literate than other students, they also tend to have markedly lower levels of thrift (Mandell, 2005). Perhaps they feel they deferred consumption is not necessary if they can make up any savings deficit by playing the market.

Clearly, however, the success of the stock market game in improving financial literacy points our educational efforts in the direction of higher levels of interaction. For that reason, the MoneySKILL program, which I helped develop, is web-based and totally interactive and demands that students “test-fly” their own lives successfully to pass the course (AFSA 2003). Although the embedded pre- and post-tests demonstrate a great deal of learning over the course of a semester, we must follow matched samples of users and non-users to see just how “sticky” this knowledge turns out to be. Some educators believe that the entire high school course must be turned into a giant “game of life” to increase the probability that financial literacy, attitudes and subsequent adult behavior will improve.

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Learning Your Monetary ABC's: The Link Between Emergent Literacy And Early Childhood Financial Literacy

by David Godsted & Martha Henn McCormick

Generations of young people, including the current generation, have endured parental admonitions about how difficult their parents had it when they were young, and how young people just don't appreciate the value of a dollar or the meaning of a work ethic. But has there actually been a fundamental shift in how people handle their personal finances? Trends suggest that the current crop of parents, at least, have cause to worry both

- Research shows that credit card debt in America has almost tripled since 1989 and increased 31 percent since 2000. Americans now owe some \$800 billion in credit card debt. In addition, owing largely to job instability and medical costs, personal bankruptcies rose from 616,000 in 1989 to approaching 2 million in 2004.¹
- The number of Americans filing for bankruptcy jumped 30 percent in 2005 to the highest on record as debtors rushed to file petitions before new restrictions took effect, according to the Administrative Office of the U.S. Courts. Personal bankruptcies filed in the federal courts totaled 2,078,415 in 2005, up from 1,597,462 petitions filed in 2004.²

1. "New Survey Report Reveals Truth Behind Credit Card Debt Explosion in the United States." PR Newswire US, October 12, 2005.

2. "Personal Bankruptcies Soar to All-Time High." CNN Money, March 24, 2006.

- In a 2004 survey, the median reported value of all household retirement savings was only \$51,000. 48% of Americans are concerned that they have not saved enough for retirement.³
- Teens were projected to spend \$159 billion in 2005. Although teens' overall spending registered a 6% decline from 2004 to 2005, most 12- to 19-year-olds reported spending just as much of their own money in 2005 as they did the previous year. Nearly half (47%) believe they'll spend more in 2006 than they did in 2005.⁴

about their own and their children's financial futures:

From decreased savings to increased credit card debt, from tapping into retirement savings for current consumption to increasing numbers of personal bankruptcy filings, our nation is on a path of personal indebtedness that has the potential to affect not only our individual quality of life, but the fiscal health and security of our nation. What has changed over the last generation? In our ownership society, people face increased pressures at younger ages to address asset allocation and retirement security issues pertaining to Social Security, 401Ks, and the precipitous decline in employer-provided defined benefit plans. Additionally, easily accessible consumer credit, the movement towards a cashless society, and increasingly sophisticated marketing techniques have combined to form a "perfect storm" of personal financial illiteracy, helping to drive up spending and debt while suppressing saving. What can be done to reverse the trend?

Networks Financial Institute (NFI), a Lilly Endowment funded initiative of Indiana State University, views financial literacy as an important component of literacy itself. The National Foundation for Educational Research defines financial literacy as, "The ability to make informed judgments and to take effective decisions regarding the use and management of money."⁵ The framework of literacy is supported by a discrete skill set in which individuals must develop proficiency so that they function comfortably and well in our society. Grover Whitehurst and Christopher Lonigan allude to "changing conceptualizations of what constitutes literacy . . . recent years have seen the concept of literacy extended to any situation in which an individual negotiates the environment through the use of a symbolic system."⁶ By this definition of literacy, the relationship of individuals to their money is most certainly part of the rubric of literacy.

As the burgeoning body of publication on early literacy indicates, it is widely recognized that literacy, as the foundation for virtually all other subject areas, needs to be taught from the very earliest ages; this focus on early childhood literacy is known as emergent literacy.

3. Merrill Lynch, 2004 Retirement Survey, May 2004.

4. "TRU Projects Teens Will Spend \$159 Billion In 2005." Teen Research Unlimited, December 15, 2005.

5. Schagen and Lines, 1996.

6. Whitehurst and Lonigan, 2001.



Currently, emergent literacy has superseded the concept of reading readiness in early childhood education. Emergent literacy is encouraged by the developmental theory of Lev S. Vygotsky and indicates that children do not learn to read immediately after they are believed to be ready. Instead, the process of learning to read develops and drags out loosely over an extended duration as children accumulate knowledge of and experience with the spoken and written language.⁷

Ritchie *et al* also contend that there is no clear distinction between reading and non-reading in the emergent literacy phase but that the transition from being a non-reader to a reader happens on a developmental continuum.⁸ Following this premise, NFI contends that the core concepts that undergird financial literacy, including goal setting, intertemporal choice,⁹ philanthropic giving, earning, saving and spending, also need to be emphasized and supported from the very earliest grades, if students are to transition into financially literate consumers. Consumer education and training for children in the U.S. can be traced back to the 1930s but has been most often applied to secondary educational settings.¹⁰ Addressing financial literacy in the classroom and as early as kindergarten through second grade lays the groundwork for more advanced studies of financial literacy that typically appear in the later years of K12 education, through the subjects of economics, business education, family and consumer sciences, and mathematics. Research in emergent literacy shows that “[c]hildren need to learn mainstay concepts . . . from which more complex and elaborated understandings and motivations arise.”¹¹ For example, young readers begin with mainstay concepts and skills such as grasp of the alphabetic principle and then move at a later date to “phonological awareness [and] alphabet letter knowledge.” They begin with a nascent understanding of text structures and genres, and “a strong desire to know” and then later move in to “the functions of written language, a sense of meaning making from texts, [and] vocabulary.”¹²

NFI's research demonstrates that financial literacy is rarely being

7. Saracho and Spodek, 2003.

8. Ritchie, James-Szanton and Howes, 2003.

9. Intertemporal choice is the study of the relative value people assign to two or more payoffs at different points in time. Irving Fisher's *Theory of Interest* (1930) provided the most complete and accepted elaboration of intertemporal choice and interest rates to date. The concept was introduced in the nineteenth century by John Rae (1796-1872) in 1834 in the “Sociological Theory of Capital” and Nassau William Senior (1790-1864) in his *Outline of the Science of Political Economy* (1836). Eugen von Böhm-Bawerk (1889) also contributed to its development. http://en.wikipedia.org/wiki/Intertemporal_choice. Intertemporal choice is different from the concept of delayed gratification. Deferred or delayed gratification is the ability of people to wait for things they want but does not take into consideration comparative value of now vs. later, or the notion of payoff as a benefit of waiting. http://en.wikipedia.org/wiki/Delayed_gratification.

10. Cohen, 1994.

11. Roskos et al, 2003.

12. Roskos et al, 2003.

taught to K through 5 students in the Indiana schools and is infrequently taught to students in grades 6 through 12.¹³ NFI's survey of Indiana teachers reveals their discomfort with their own personal financial literacy knowledge, and nationally, among parents with children 5 years of age or older, only 26% feel well prepared to teach their children about basic personal finances.¹⁴ Eighty percent of parents believe that schools provide classes on money management and budgeting to their students.¹⁵ These findings suggest that financial literacy education is generally not provided in the home or in schools and, in the limited settings in which it is mandated by state academic standards, it is mandated only on the high school level. Only seven states, up from four in 2002, made personal finance a requirement for high school graduation in 2004, and only nine states require testing in personal finance.¹⁶

Unfortunately, then, and in direct contrast to the lessons provided by emergent literacy research of the value of early intervention, a financial literacy "buck" is being passed from parents to teachers and back to parents again. Parents assume that schools are teaching financial literacy, but schools, by and large, are not teaching it. Teachers, like parents, don't feel comfortable teaching it.¹⁷ For example, while Indiana teachers cite their own knowledge level as an impediment to teaching financial literacy they additionally mention both lack of teaching materials and lack of professional development opportunities as impediments to classroom delivery of financial literacy education.¹⁸ Consequently, students are graduating from high school with poor financial literacy skills. Meanwhile, advertisers and marketers are well aware that even young children are ripe targets for "high pressure sales tactics," with advertisers using Saturday morning cartoon time to "target consumers as young as three years old," cultivating their spending habits so effectively that "[t]oday's teens spend approximately \$172 billion a year and are the most affluent generation in history."¹⁹

While economics education is mandated, it is not the case that students are already receiving the requisite amount of financial literacy edu-

13. NFI's survey results document, entitled "Financial Literacy Indiana Activities Inventory," is available on NFI's website at http://www.networksfinancialinstitute.org/pdfs/profiles/NFI-01_Inventory.pdf. K-5 teachers are the least likely across all grade levels, types of schools (public or private) and regions of Indiana to teach financial literacy. They are also the least likely to deem financial literacy education important.

14. FleetBoston, *Smarter Decisions with Fleet National Survey*, September 2003.

15. Chamberlin, George. "Kids Need to Learn About Money, Too." *North Country Times* 15 15 2003. 29 October 2004.

16. The National Council on Economic Education, *NCEE 2004 Survey of the States*.

17. John Clow, director, Leatherstocking Center for Economic Education, states, "Unfortunately, many teachers feel intimidated by this topic, and this prevents them from teaching personal finance. Teachers need to realize that they don't have to know everything and that it's okay to learn along with the kids." See "Now More Than Ever," 2003.

18. For more information, see "Financial Literacy Indiana Activities Inventory" on NFI's website at <http://www.networksfinancialinstitute.org/NFI-Reports-more.asp#Policy2>.

19. "Now More Than Ever," 2003.



cation. In 49 out of 50 states, economics education is mandatory. However, insofar as economics is a social science concerned with the production, distribution and consumption of goods and services, including financial services, it is not the same thing as financial literacy. Most students take economics, yet most students fail financial literacy tests. Based on the Jump\$tart Coalition for Personal Financial Literacy national survey of high school seniors, America's teenagers as a group in 2006 score a failing grade in basic financial literacy knowledge.²⁰ In 2005, NFI conducted a survey (parallel to that of the Jump\$tart Coalition national survey) to generate an in-state baseline of information about Indiana high schools seniors and their level of financial management skills and education. In 2006, 62% of high school seniors nationally failed the exam while in Indiana in 2005, 62% of high school seniors failed the financial literacy exam,²¹ despite the fact that economics is a required course for Indiana high school seniors. Understanding the science of market dynamics and the flow of capital clearly does not equate to mastering financial literacy's core concepts of goal setting, intertemporal choice, earning, spending, saving and giving. Financial literacy directly affects individual quality of life and is a personal characteristic about how an individual relates to markets, while economics focuses on the functioning of markets and market activity.

The result of the collective failure to educate K12 students about financial literacy is shown in a January 2006 study by the American Institutes for Research (AIR) for the Pew Charitable Trusts. The connection between literacy, numeracy and financial literacy skills is sharply drawn in this study entitled "The Literacy of America's College Students." It emphasizes, Every adult needs a range of literacy skills to achieve his or her personal goals, pursue a successful career, and play an active role as a citizen. High levels of literacy also enable individuals to keep pace with changing educational expectations and technologies and support the aspirations of their families.²²

The AIR study measures prose, document and quantitative literacy skills of nearly 2,000 students in their final year at selected 2- and 4-year public and private colleges and universities across the US. The study defines quantitative literacy in terms of the ability to perform computations such as balancing checkbooks, calculating tips and completing order forms. While these students' skills in all measured areas of literacy outperform the general adult population, quantitative literacy is the area of

20. Hines, Steve. "Financial Literacy Shows Slight Improvement Among Nation's High School Students." Jump\$tart Coalition for Personal Financial Literacy, 5 April 2006.

21. NFI's survey results document, entitled "Indiana Financial Literacy Report Card," is available on NFI's website at <http://www.networksfinancialinstitute.org/NFI-Reports-more.asp#Policy1>. The Jump\$tart 2004 survey results are available in the downloads section of Jump\$tart's website at <http://www.jumpstart.org/>.

22. Baer et al, 2006.

greatest difficulty for them. Thirty percent of 2-year institution students and twenty percent of 4-year institution students score at only the basic level of quantitative literacy, comparable to having the ability to compare ticket prices or calculate the cost of a sandwich and salad from a menu.²³ This study underscores the potential lifelong repercussions of failing to educate elementary, middle and high school students on issues of personal financial management.

Since many teachers are equally concerned about the importance of early numeracy and emergent literacy,²⁴ financial literacy is a topic that allows teachers to address both skill sets at once. If educators and parents wait for later grades and then expect students to warm to financial literacy instruction, they are in essence introducing students to Shakespeare and algebra before they know how to read, add and subtract. Dr. Reid Lyon of the National Institutes of Health argues that educational interventions beginning after the third grade come too late and that “a 12-year-old child will need between four and five times more ‘intervention time’ than it would take to provide that same child with opportunities to acquire pre-literacy skills at an early age.”²⁵

Argues Stewart Cohen, true consumer awareness should await children’s transition to adulthood. [This] pattern of educational emphasis disregards several important issues in consumer education. Children need contemporary consumer education at each developmental stage. Such education must reflect children’s increasingly early participation in consumer affairs and the fact that their level of participation changes over time.²⁶

The assertion that there is a moment in time when students are at the proper stage of development to receive financial literacy instruction is reminiscent of outdated notions of reading-readiness, which maintained that teachers could look for a series of characteristics evident in children, a critical mass of which would indicate that a child was primed to learn to read.²⁷ Educators now understand that “literacy development begins long before children start formal instruction” and that “children are doing cognitive work in literacy development from birth through 6 and that quality instruction makes a vital contribution in these years to children’s success.”²⁸ Applying these insights to financial literacy would indicate that earlier interventions lay an important foundation for children’s ongoing receptivity to learning personal financial skills and challenges the notion

23. McQuillan, 2006.

24. Dickinson, 2002.

25. Child Care Action Campaign, 2000.

26. Cohen, 1994.

27. Neuman and Dickinson, 2001.

28. Neuman and Dickinson, 2001.



that there is a correct moment much later in the formal education process when it is appropriate to finally introduce financial literacy concepts. Additionally, in a May 2006 op-ed column “Marshmallows and Public Policy,” David Brooks discussed the relationship between delayed gratification and school success, commenting, “If you’re a policymaker and you are not talking about core psychological traits like delayed gratification skills, then you’re just dancing around with proxy issues. You’re not getting to the crux of the problem.”²⁹

The argument to delay financial literacy education until middle or high school is oftentimes grounded in the fact that family and consumer science is not introduced prior to middle school, and economics and business education are usually taught at the high school level. However, mathematics and science are taught throughout K12, and mathematics particularly provides an ideal opportunity for exploring financial concepts. The National Council of Teachers of Mathematics (NCTM) standards document, *Principles and Standards for School Mathematics*, sets out five goals for mathematical early childhood education, and money concepts can be used to teach ~~all of the standards including~~ money is a real-world concept that matters

- to students’ families;
- developing mathematical confidence – when students learn about handling money or buying items, they become more self-assured;
- problem solving – learning about the value of money and counting skills helps to build problem-solving skills;
- communicating mathematically – children can learn about monetary signs and symbols;
- reasoning mathematically – children learn how to ‘buy’ items and discuss cost values.³⁰

Certainly, specific concepts that could be viewed as practical applications of financial literacy (e.g., buying or leasing a home or car, understanding a workplace retirement plan, understanding the fees behind different mutual fund products) are not relevant to elementary aged children. By extension, children entering first grade are not expected to read or understand the plays of William Shakespeare. Qualitative differences exist between how younger learners develop early understanding and how

29. Brooks, 2006. Brooks’ column cites the work of psychologist Walter Mischel, who in 1989 published a study in the journal *Science*, “Delayed Gratification in Children,” that “analyzed the nature of this type of future-oriented self-control and the psychological processes that underlie it. Enduring individual differences in self-control were found as early as the preschool years. Those 4-year-old children who delayed gratification longer in certain laboratory situations developed into more cognitively and socially competent adolescents, achieving higher scholastic performance and coping better with frustration and stress.” See Mischel et al, 1989.

30. Saul, 1997.

31. Bodrova and Paynter, 2000.

somewhat older students learn more complex content.³¹ Just as emergent literacy teachers begin with pre-literate skills such as sounding out phonemes or identifying individual letters, so teachers of early childhood financial literacy begin with baseline skills such as recognizing the physical properties of individual coins or sharing money-themed children's books during story hours. As with emergent literacy instruction, early financial literacy learning and policy must achieve the following:

- Developmentally appropriateness of benchmarks so that they are not merely “dumbed-down” versions of content designed for older students;
- Development of “underlying cognitive skills” within benchmarks;
- Learning that takes account of the “whole child” and integrates financial literacy and basic numeracy into many content areas, including math, science, and reading;
- Learning that is adult-guided, since younger learners lack the attention span, social skills, and abstract reasoning that older students possess.³²

Megan Loef Franke describes how cognitive understanding of mathematics, like literacy, develops as young individuals make connections between isolated pieces of information and begin to weave them into “increasingly structured and cohesive networks.”³³ Using money as a concept both for illustrating mathematical ideas and for thinking about mathematical ideas in multiple contexts is a practical way to help students build those connections.

Education for young children about money is a meaningful experience that relates to real life and can be integrated with many other constructivist learning activities. . . Children who learn about money develop the ability to investigate, predict, reason, and use a variety of methods to solve problems. Thus they begin to achieve mathematical power.³⁴

Just as there are core concepts behind literacy that must be taught at the earliest possible ages (understanding the shapes of letters, or learning contextual clues in order to deduce the meanings of words), children must also have a foundation of core financial literacy concepts built before they begin to tackle more sophisticated activities. Pre-K and kindergarteners “can be introduced to ideas about money such as purchasing potential, coin names and value, and early counting skills. Primary-age children are increasingly capable of computations and making [financial] comparisons.”³⁵ Storybooks can provide extensive information about money and

32. Morrison and Connor, 2002.

33. Franke, 2003.

34. Saul 1997.

35. Saul 1997.



consequently help to develop literacy and financial literacy simultaneously. Role-playing purchasing and earning, learning coins and playing counting games with them, learning monetary symbols and incorporating money symbols and coin images in art projects, and reading stories about money concepts all contribute to addressing aspects of goal setting, intertemporal choice, earning, saving, planning, and spending in a concrete fashion as soon as possible in a child's development.³⁶ The role of tangible play in early childhood education includes helping students to "remember on purpose" and focus their attention.³⁷

As is the case with emergent literacy, children in poverty may be up to two years behind their more advantaged peers in counting skills and other aspects of foundational numeracy. Such early learning deficits may persist, effectively severing these at-risk students from full opportunity to later pursue mathematical, scientific or technical studies. Pre-K through second grade mathematical experiences are "highly predictive of later success in math, science and technology,"³⁸ so students should be provided with basic support and allowed to catch up in the classroom setting. Financial literacy foci allow students to learn money concepts while addressing both their emergent literacy and numeracy.

Which is more pressing: mandated financial literacy standards, or the teaching of financial literacy to elementary-aged children? Because financial literacy instruction is not explicitly required by most state or by federal academic standards, teachers therefore are not compelled to teach it. Where state academic standards do exist, they relegate financial literacy instruction to the later school years, despite the clear learning benefits demonstrated by early financial literacy intervention. NFI is developing Financial Literacy Competency Guidelines which will serve to define financial literacy for adults. NFI's competencies, based on expert knowledge of financial literacy content and informed by K12 student learning abilities and academic progression, will provide a framework of skills that could serve as the basis for an eventual state-by-state, and even federal, set of mandated academic standards. NFI realizes that this systematic change will take considerable amounts of time, energy, and coalition building. It will, in fact, require a movement. For this movement to be successful, elementary level teachers must be connected now with high quality financial literacy materials. The answer, then, to the "chicken or egg" question about which should be accomplished first, mandatory standards or teaching financial literacy to elementary level students, is both. Catherine Pulley of the American Bankers Association argues that "Financial literacy is a basic survival skill that is as important as teaching kids to look both ways before

36. Saul, 1997. This article lists some appropriate storybook titles dealing with money concepts for young children. For "books that provide high support for early numeracy development" see also Dickinson, 2002.

37. Roskos et al 2003.

38. Dickinson 2002.

crossing the street.” Likewise, Paula Fraher, as director of national initiatives for the Bank of America Foundation, has stated that “It’s important, therefore, to start teaching children money management skills as young as possible.”³⁹

A substantive body of research has been developed over the past thirty years demonstrating the importance of childhood exposure to literacy as the basis for subsequent development in all subjects. And according to the Workforce 2020 report, good early education generally is “the most effective way to build the basic skills necessary for the 21st century and to increase national productivity and prosperity.”⁴⁰ Furthermore, particular studies have noted that before children are even ready to begin communicating, they are able to respond to parents modeling behaviors of literacy (reading a magazine, typing on a computer, having bedtime stories read to them), and thus draw value judgments from these observations. Parents, teachers, school districts, boards and departments of education, and our entire nation must come to terms with the fact that, just as with literacy generally, students cannot afford to wait until middle or high school to begin learning about financial literacy. “Educators need to adopt and meaningfully apply the view of consumer education as a lifelong process, which should be initiated early to ensure responsible consumer behavior that will continue into adulthood.”⁴¹ Until a set of financial literacy academic standards are adopted nationally, stakeholders of our educational system need to glean teachable moments of financial literacy from existing curricula in all subject areas. At the youngest grade levels, doing so will entail concentrating on the baseline concepts that form the foundation for the personal financial decisions children and, ultimately, adults must be prepared to make about budgeting and developing the ability to plan for future purchases and to take the steps necessary to achieve those goals.

- Intertemporal choice – presenting scenarios to children so that they understand that there are times when it is better to wait for something instead of acquiring it immediately.
- Earning – giving children the opportunity to earn rather than always receiving gifts helps them to see the value in the time and effort they would expend towards purchasing an object.
- Saving – developing habits in children where it becomes second nature to put a portion of their earnings away, and promoting activities where the act of saving becomes a form of instant gratification.

39. Bodrova and Paynter, 2000.

40. Child Care Action Campaign, 2000.

41. Cohen, 1994.



- Spending – learning how to be more savvy in the way children make choices as consumers, comparing costs and marketing claims.
- Giving – helping children to see that philanthropy can be a natural part of being financially literate, thereby setting the stage for a nation of givers in the future.

The stakes are enormous. Through financial literacy education, we need to directly address the trends we are experiencing of mounting debt, ever increasing rates of bankruptcy, and uncertain healthcare, social security and retirement funding systems.

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