

Financial Literacy:
What Works? How Could It Be More Effective?

William G. Gale and Ruth Levine

October 2010

William G. Gale is the Arjay and Frances Fearing Miller Chair in Federal Economic Policy in the Economic Studies Program at the Brookings Institution and director of the Retirement Security Project. Ruth Levine is a student at Stanford Law School and a former research assistant at Brookings. The research reported herein was pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Financial Literacy Research Consortium (FLRC). The findings and conclusions expressed are solely those of the authors and do not represent the views of SSA, any agency of the federal government, the FLRC, the Brookings Institution, the Retirement Security Project, Stanford Law School, or Boston College. The authors thank Ben Harris, Alicia Munnell, and Steve Sass for helpful discussions and Ilana Fischer for research assistance.

Abstract

This paper highlights the extent and effects of financial illiteracy among American households, reviews previous efforts to promote financial literacy, and discusses new directions for such initiatives. None of the four traditional approaches to financial literacy – employer-based, school-based, credit counseling, or community-based – has generated strong evidence that financial literacy efforts have had positive and substantial impacts. Nevertheless, the apparent success of financial planning efforts and of simplification initiatives suggests that there are both private actions and public policy strategies that can influence saving behavior. There is a key role for the private sector in enhancing financial literacy and the market is responding rapidly to try to fill the void. At the same time, there is an at least equally important role for the public sector, via a campaign that revolves around a comprehensive website, and through better coordination of existing policies toward saving. We conclude that improving financial literacy should be a first-order concern for policy-makers, and that gains could accrue not only to the affected individuals, but also to their family members and society at large.

Financial Literacy: What Works? How Could It Be More Effective?

I. Introduction

In a recent consumer study, 21 percent of individuals surveyed – including 38 percent of those with income below \$25,000 – reported that winning the lottery was "the most practical strategy for accumulating several hundred thousand dollars" of wealth for their own retirement. In addition, 16 percent thought that winning the lottery was the best retirement strategy for all Americans, not just themselves (Consumer Federation of America and The Financial Planning Association, 2006). This is far from the only recent example of financial dysfunction among American households. From 401(k) portfolios overstuffed with company stock to cups of coffee that cost \$35 because of overdraft fees, a growing number of compelling examples suggest that many people are simply financially illiterate. For purposes of this paper, we define financial literacy as the ability to make informed judgments and effective decisions regarding the use and management of money and wealth. Financially illiterate households make poor choices that affect not only the decision-makers themselves, but also their families and the public at large, making the improvement of financial literacy a first-order concern for public policy.

Although policy makers have long been concerned about the financial status of American households, secular shifts toward lower private saving, longer retirement periods, and "do-it-yourself" defined contribution plans have fueled these concerns in recent years. Likewise, declines in housing values, financial assets, and the overall economy have heightened both the urgency and the importance of these issues.

Partially in response to these concerns, recent years have seen a growing awareness that many Americans possess little financial literacy, and an increasing belief that raising literacy rates could be the gateway to improved saving outcomes and increased financial and economic security. Efforts to improve financial literacy are now supported by a wide array of organizations, including private employers, federal, state and local government agencies, commercial banks, consumer groups, community service organizations, and religious organizations. As interest in financial literacy grows, however, it is crucial that policy makers and interested organizations understand the relative strengths and weaknesses of prior efforts to improve literacy, the new approaches to literacy that are under consideration, and how financial literacy efforts can best be implemented to exploit the advantages of pre-existing policies.¹

This paper addresses these issues. We begin in section II with a brief summary of evidence on the extent and effects of financial illiteracy, and discussions of how literacy evolves over the life cycle and the potential welfare implications of illiteracy.

Section III provides much of the substance of the paper, reviewing and assessing previous research on the effects of four traditional formats for delivery of financial literacy and financial education efforts. First, employer-provided financial education expanded rapidly following the growth in 401(k) participation in the 1980s, is typically voluntary for workers, is often targeted toward retirement saving, and provided via seminars, information fairs or the distribution of written information. A second approach, state-mandated financial and consumer education for students in public high schools, expanded from the mid-1950s through the mid-1980s and tends to focus on

¹ Earlier reviews of financial literacy or financial education efforts, with somewhat different focus from this one, include Braunstein and Welch (2002), Martin (2007) and Lusardi and Mitchell (2009a).

overall financial responsibility and record-keeping. The third approach, credit and mortgage counseling, is usually provided in a one-on-one format and, naturally, focuses on helping households manage debt problems. Lastly, community-based programs frequently focus on general financial education, increasing saving or debt management, and are often administered through churches, banks or non-profits.

None of the four traditional approaches has generated unambiguous evidence that financial literacy efforts have had positive and substantial impacts. There is some evidence that workplace financial education has helped raised retirement plan participation and contributions, and that it has raised households' overall level of saving as well – in both cases at the lower end of the saving and wealth distribution. But much of the evidence is subject to potential econometric biases, and the strongest evidence, from experimental work, suggests quite small effects. Nor are the other approaches more effective. Evidence on the impact of high-school financial education mandates or classes is ambiguous and inconsistent. While early work suggested a strong impact, recent work with more general models has rejected that finding. Evidence of impacts of credit and mortgage counseling and advising through community-based programs is suggestive, but not compelling. In general, much of the literature is marred by econometric concerns that make reliable inference difficult.

In addition to the four typical approaches to providing financial literacy described above, we also examine the impact of financial planning and of making saving choices simpler. These two issues are related to financial literacy in that they also link information and saving behavior. With some caveats, planning does appear to help people save more and simplification of saving options clearly raises participation rates

and contribution rates in retirement plans.

Although prior efforts at raising financial literacy appear to have met with at best mixed success, the apparent success of planning efforts and of simplification initiatives suggests that there are both private actions and public policy strategies that can influence saving behavior. Section IV of the paper therefore explores three aspects of how private and public efforts to bolster financial literacy could evolve in the future in order to have the most impact.

First, we discuss an explosion of new private sector efforts to provide financial education and raise financial literacy, which typically focus on online access and often emphasize behavioral concepts. These activities can serve to bolster interest and knowledge of financial literacy, but may run into limits based on issues related to the independence and credibility of the informative provided. The main policy goal here is to let the private sector's creativity bloom and to ensure that any potential conflicts of interest are reported clearly.

Second, we describe key elements of previous public information campaigns – such as the effort to reduce smoking – and how they could be transplanted into a national campaign to raise financial literacy. There are some concerns about how a campaign for financial literacy would work – for example, it may be more difficult to communicate basic financial concepts than to convey a message like “stop smoking” or “wear seat belts.” Nevertheless, an overarching public information campaign could play a key role in promoting financial literacy, by providing a credible, digestible, timely, comprehensive, and continual information on the key issues. The literature on campaigns offers many important lessons that could be applied to a financial literacy campaign.

Third, we discuss how interactions between financial literacy initiatives and other public policies could be exploited to leverage the impact of both new and existing policies. Policy makers have encouraged saving through several different approaches, such as mandates (social security), incentives (401(k) plans), choice architecture (automatic enrollment), and information (social security's individualized annual statements to participants). A promising direction for financial literacy policy is to focus on the extent to which such policies are complements or substitutes. We argue that combinations of policies – for example, to help low-income households save – are coherent intellectually and would leverage the impact of each individual intervention.

Section V offers concluding remarks.

II. Financial Literacy – Extent and Effects

Bernheim (1995, 1998) presents systematic evidence of widespread financial illiteracy, showing that many households can not perform simple calculations or address basic financial issues. Lusardi and Mitchell (2006) report the results of a series of questions designed originally for the 2004 Health and Retirement Study (HRS), and used subsequently in a variety of studies and other surveys. The questions ask respondents to evaluate *extremely basic* financial questions:

- Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, less than \$102?
- Imagine that the interest rate on your savings account was 1% per year and

- inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account?
- Do you think that the following statement is true or false? “Buying a single company stock usually provides a safer return than a stock mutual fund.”

Remarkably, among respondents over the age of 50, only half answered the first two questions correctly and only a third answered all three of the questions correctly. In a variety of surveys, women, African Americans, Hispanics, less-educated individuals, and both the young and the old are consistently less likely to be financially literate than others (Lusardi and Mitchell 2008, 2009 (a, b), Lusardi, Mitchell, and Curto 2008).

Although the connection between financial illiteracy and financial mistakes may appear to be obvious, it is worth highlighting some of the abundant evidence relating the two. In a variety of studies that measure financial literacy in different ways, households or individuals who are less financially literate have been found to be: less likely to own a checking account, an emergency fund, a retirement plan or stocks (Christelis, Jappeli, and Padula 2008; Hilgert and Hogarth 2003; van Rooij, Lusardi, and Alessie 2007) and more likely to take pay-day loans, pay only the minimum balance on a credit card, take on high-cost mortgages, have higher debt levels, and be delinquent on debt (Gerardi, Goette and Meier 2010; Lusardi and Tufano 2008; Moore 2003; Stango and Zinman 2008). Campbell (2006) and Buck and Pence (2006) show that people often do not understand the terms of their mortgages. Campbell (2006) shows that three major financial mistakes – under-participation in financial markets, lack of diversification, and poor choices in mortgage contracts – tend to be concentrated in low-income, low-education, minority

groups – the same groups who performed worst on the Lusardi-Mitchell questions above.

It is natural to expect that financial literacy – like other forms of human capital and intelligence – might evolve over the life cycle and the limited evidence to date bears out this prediction. Willis (2009) discusses how overall cognitive ability constrains and shapes financial literacy issues. He distinguishes between the stock of knowledge and reasoning ability and notes that they can evolve differently over the life cycle. He shows, using data from a recent survey of respondents' cognitive function and economic status, that number-recall ability declines linearly with age, while financial knowledge, which is in part experience-based, stays relatively stable. The combination of these two results suggests that increasing experience in financial matters as an individual matures helps to raise financial knowledge.

Along related lines, Agarwal et al. (2009a) hypothesize that younger and older consumers make relatively more financial mistakes than their middle-aged counterparts. The authors study choices made by individuals of different ages with regard to credit card balance transfers, home equity loans and lines of credit, interest rates paid on loans, and credit card fees. They find that financial fees, financial mistakes and high interest charges followed a U-shaped pattern over the life-cycle. Though the precise shape of the curve varies by the type of financial decision, the minimum amount of fees, payments and mistakes occurs at about age 53.

Prior research has not generally focused on the welfare consequences of financial illiteracy, beyond the impact on the individual's behavior. Campbell (2006) is an exception, proposing that more naïve and less educated households actually subsidize the costs of more sophisticated financial products for those who can use them appropriately.

This, in turn, may reduce innovation in these markets because there is less need among the sophisticated buyers for simpler or higher-value products. Thus, Campbell argues that financial mistakes have welfare implications for the households who make them as well as the market as a whole and suggests a possible role for policy.

III. Effects of Financial Education and Literacy Initiatives

1. Workplace Financial Education

One of the first papers to study the effects of employed-based financial education was Bernheim and Garrett (2003).² Bernheim and Garrett use data from a 1994 national survey of 2,055 households where the respondent was between age 30 and 48, administered by telephone and in conjunction with Merrill Lynch, to explore the effects of retirement seminars on household retirement and saving behavior. Importantly, they examine the effect of having an employer offer financial education, not the impact of actually participating in a financial education. Focusing on the availability of financial education rather than participation avoids selection bias that would arise if those who are personally motivated to save are also more likely to participate in financial education. They find that – on average and at the 25th and 50th percentiles – employees of firms that offer financial education have significantly higher levels of 401(k) participation rates, contributions, and balances as well as higher overall (including saving outside of retirement accounts) saving rates.

Lusardi (2002) undertakes a similar analysis using data from the Health and Retirement Study (HRS). She employs data on actual participation (as opposed to

² Working paper versions of this article circulated as early as 1996.

eligibility) in financial education initiatives. To help reduce the selection bias noted above, she employs a wide range of explanatory variables including measures of households' preference for risk and for discounting the future. Like Bernheim and Garrett (2003), she finds significant impacts at the lower end of the saving distribution. Participating in financial education classes raises total wealth and financial wealth at the 25th percentile. In separate high-education and low-education samples, financial education participation raises wealth at the 25th percentile.³

While the studies above use surveys of individual respondents, other analyses explore behavior at the firm level. Because such data do not contain information on employees' wealth outside of the pension or 401(k) plan, the results tend to focus more narrowly on retirement saving behavior. Bayer, Bernheim and Scholz (1996) use benefit survey data on a cross-section of firms, and find that seminar-style financial education programs have a statistically and economically significant effect on retirement plan participation. Non-highly-compensated employees who worked for employers that offered frequent seminars had participation rates 11.5 percentage points higher than those whose employers offered no seminars. The frequency of seminars affected saving activity, too, but written items, like newsletters or summary plan descriptions, had little effect at any frequency.⁴

³ Muller (2002) also uses the HRS and tests the effects of financial education meetings on the rate of saving out of lump sum pension distributions. Controlling for demographic, economic, and risk preference variables, she finds no significant effects.

⁴ Clark and D'Ambrosio (2008) conducted another firm-level study, distributing surveys one month before, immediately after, and several months following a one-hour retirement saving seminar. The main finding is that the seminar had a significant effect on people's stated retirement goals, but there was little follow-up in terms of changes in behavior several months after the experiment. These intriguing findings point to the idea that education itself is not enough to change behavior, and that an additional device, perhaps automatic enrollment, would usefully supplement education efforts. However, it is not clear how reliable the results are, in that the response rate for the follow-up survey was far lower than for the first two surveys.

With data on multiple years of employee participation rates and benefit offerings, Bayer, Bernheim and Scholz (1996) are able to show that employer-based financial education programs tend to be “remedial” in nature; that is, they tend to be offered in situations where employee participation and retirement saving is relatively low. This pattern may be explained by firms’ needs to meet non-discrimination rules regarding the provision of pension benefits. In any case, regardless of the explanation, the result implies that all of the findings listed above understate the true effect of financial education (see also Clark and Schieber 1998).

However, it is difficult to control for all of the factors determining saving. It may be, for example, that firms with more and better benefits attract workers with longer-term horizons and more stable economic environments, in which case the impact of employer-based financial education may be overstated. One way to address this concern is via a randomized experiment. Duflo and Saez (2003) conduct an experiment that is free of the various biases noted above. They offered a \$20 payment to randomly selected university employees in randomly selected departments to attend a retirement fair. The payment had a significant impact on attendance – 28 percent of those who received a letter attended, compared to only 5 percent of controls (workers in departments where no one received a letter). The strength of social networking is shown by the fact that the attendance rate was 15 percent for those who did not receive a letter but were in the same department as someone who did. However, the overall impact on retirement plan participation was small – after 11 months, participation rates among those who received a letter were less than 1.5 percentage points higher than for controls. Thus, they find that even a large increase in participation in an employer-based retirement fair had only a very

small impact on actual retirement plan participation. (Duflo and Saez (2002) provide additional information on peer and social networking effects in this experiment.)

2. School-Based Financial Education

Bernheim, Garrett and Maki (BGM, 2001) exploit changes across states and time in laws requiring financial and consumer education in public high schools to set up a natural experiment. They use a specially commissioned wealth survey of 2,000 households conducted by Merrill Lynch in fall 1995 that asked respondents aged 30 to 49 the state in which they attended high school and their date of graduation. This allowed the authors to determine whether each individual was exposed to a financial or consumer education mandate in high school. The authors show that respondents' reported exposure to financial education course work and their reported saving rates are (a) larger in the states and years after a mandate is introduced and (b) increasing with the length of time between when the mandate was introduced and when the student attended high school.⁵

Cole and Shastry (2008), however, re-examine the same issue with household data from the Census. Using a specification like Bernheim and Garrett's, they are able to replicate the same patterns. Using a more general specification, however, that allows clearer delineation of state and time effects, they find no impact of the financial education mandates on household saving behavior.

Other papers in this literature are less sophisticated econometrically, but reflect similar ambiguity in findings, as the two papers above. Mandell (2007) reports that the Jump\$tart Coalition for Personal Financial Literacy has conducted biennial nationwide

⁵ Maki (2004) uses data from the same survey as BGM to show that exposure to high school financial education raises the likelihood that people are able to correctly answer questions related to the returns of stocks relative to bonds questions about the structure of their pension plans.

surveys of high school seniors since 1997. The results show that even semester-long high school classes devoted to personal finance do not raise the scores. The National Endowment for Financial Education (2009) surveys nearly 16,000 college students on their financial knowledge and financial behavior, and then relates such behavior to the state in which they attended high school, grouping states into six categories based on the rigor of their financial education requirements. They find that respondents who were in a state with mandated financial education generally had higher financial literacy scores, as well as “better” financial behaviors including budgeting and use of credit. However, the results are not entirely consistent and they are based on a response rate below 10 percent to an initial email. Tennyson and Nguyen (2001) use survey data from Jump\$start to test the effects of mandated in-school financial education on financial knowledge of students. The results show that curriculum mandates are not generally associated with higher scores but students from states that required specific financial education courses scored higher than those in states with either a general mandate or no mandate.

3. Credit and Mortgage Counseling

Research on counseling for credit use and homeownership faces difficult challenges. Many of the participants already have credit problems, which makes constructing an appropriate control group both more difficult and more crucial.

The most compelling analysis is provided by Agarwal et al. (2009b). The authors utilize legislation in the Chicago area that mandated counseling and third-party review of mortgage contracts in certain zip codes but not in others. This allows the creation of treatment and control groups based on geographic area. The authors note two possible sources of change in mortgage choice and default rates: direct information from the

counseling, and increased oversight of mortgage loan contracts. They find substantial evidence that the increased oversight of mortgage loan contracts affected the quality and quantity of mortgage lending, but little evidence that the direct effects of counseling has a serious impact on default rates.

Other work in this area features mixed results and is less convincing for econometric reasons. Elliehausen, Lundquist, and Staten (2003) use data from five bureaus of a national credit counseling agency, matched with credit bureau data to allow for the construction of a control group. The members of the control group are determined based on similarity to the 14,000 treated individuals with respect to geography and credit scores at the time of treatment in November 1997. The authors instrument receipt of credit counseling with a variety of variables that they argue are uncorrelated with the error term in the second stage equation. The results show that one-on-one credit counseling significantly raises creditworthiness and reduces debt and delinquency rates, with larger effects for individuals with lower initial credit scores. However, the list of instruments is suspect, and without clean instruments the model is not identified.

Hirad and Zorn (2001) study the effects of pre-purchase homeownership counseling that was required by Freddie Mac of participants in its Affordable Gold lending program from 1993 to 1998. They find a significant effect of receiving any counseling on mortgage delinquency, with the most effective form being individual counseling, followed by classroom, and home study; the effects of telephone counseling were not statistically significant. However, the paper is unable to decisively rule out selection effects into counseling as playing an important role in the results.

Quercia and Spader (2008) study the effect of HEC on prepayments using data

from the Community Advantage Program, in which individuals received affordable home loans through Self-Help Ventures, which worked with Fannie Mae to lend to individuals who were not covered by GSE loan purchases. They find that HEC does not reduce the rate of default. However, they do show that borrowers with high interest rates were more likely to take advantage of re-financing opportunities and reduce their rates if they underwent classroom or individual HEC. There were no significant findings for telephone or home-study HEC. This paper does not control for selection into counseling other than through the demographic and loan variable controls.

Ding, Quercia and Ratcliffe (2008) use the same data to study the effects of post-purchase counseling on loan outcomes. They find that undergoing counseling during a spell of delinquency helps reduce delinquency. The authors attempt to correct for potential selection bias from using only loans that survived for at least five years by requiring that they all have at least a 12-month period of good payment history.

4. Community-Based Financial Education

Individual Development Accounts (IDAs) are saving accounts that provide financial education as well as matched funds for particular uses (such as home ownership). Because IDAs offer a suite of benefits, it is difficult to separate the relative contributions of financial education versus the matching incentives. Sherraden and Boshara (2008) find that exposing participants to between 1 and 10 hours of financial education raised average deposits by \$1.16 per for each hour. Thus, a participant with 10 hours of financial education would contribute \$11.60 more per month than a participant with none. If this continued over four years and the resulting balance was matched at a 2:1 rate, the total amount would be almost \$1,700. These results should be viewed with

caution, however. IDA participants are typically highly motivated savers (Mills et al 2008), there is no guarantee that IDA contributions represent net increases in saving, and as noted above in other contexts, participants' levels of financial education may be correlated with motivations for saving. Similar results are reported in Clancy, Grinstein-Weiss, and Schreiner (2001).

5. The Effect of Planning on Wealth

Besides enrolling in financial literacy workshops or classes, households may directly work on financial planning on their own, or with an adviser, and possibly as a result of having taken financial literacy classes. Ameriks, Caplin, and Leahy (2003), Lusardi (1999 and 2003b), and Lusardi and Keeler (2006) document a significant correlation between planning and wealth accumulation; in particular, households who report having done at least some planning for retirement have accumulated substantially more wealth than otherwise observationally equivalent households who have not done any planning.

The key question in this literature is whether the relationship between planning and wealth accumulation is causal. While there may not be a perfect test of this hypothesis, the papers above offer several tests, each of which finds that planning does cause wealth accumulation. In a regression explaining wealth, Lusardi (2003b) uses information on siblings as instruments for planning, an approach which may not be valid given the complexities of the economics of the family and the requirement of a good instrument that it not only be exogenous with respect to the tastes for saving but also that it influence saving only through the planning variable. Ameriks, Caplin and Leahy (2003) use specially constructed questions to generate a measure of a household's

propensity to plan (e.g., for vacations) and show that that measure has an independent and large impact on wealth accumulation. Lusardi and Beeler (2006) estimate that reverse causality – wealth affecting planning – does not occur. This result is derived by using changes in regional house prices as an instrument wealth in an equation explaining propensity to plan.

6. Simplifying Saving Options

While planning can help people navigate saving options, the evidence suggests that making the options simpler can help people participate more in retirement saving plans. The classic demonstration of this fact is Madrian and Shea (2001), who show that shifting to an automatic enrollment format raises 401(k) plan participation rates substantially. Likewise, Thaler and Benartzi (2004) show that changing the default level of contributions over time can readily enable increases in contributions.

More recently, Beshears et al (2006) evaluate an experiment in which individuals were given the chance to enroll in a retirement saving plan at a pre-selected specifications for contribution amounts and asset allocations, rather than having to choose each item for themselves. They found that the simplified option raised participation rates in the retirement saving plan by between 10 and 20 percentage points for the affected population.

Lusardi, Keller and Keller (2009) surveyed and conducted focus groups with new employees of a non-profit institution to understand what respondents saw as the biggest barriers to their saving. The three main barriers were a lack of information about how to save, too little income, and lack of self-control in following through with saving goals. In response, the authors developed a simplified plan selection process to make the steps

easier and more concrete, and the information more accessible; specifying the minimum and maximum amounts allowable for contributions to an account and demonstrating the relative sizes of those amounts; and offering commitment plans for year-long savings. Among respondents who received these “planning aids” election rates of retirement plans tripled over a 30-day period.

IV. New Directions for Financial Literacy

1. Private sector approaches

Recent years have witnessed an explosion on online sites and approaches to financial literacy that offer promising, but as-yet unevaluated, methods of raising financial literacy. Center for Retirement Research (2010) reports the existence of more than 4,000 personal finance websites and divides web-based financial education and decision tools into three categories: financial data aggregators, financial decision tools, and personal finance online communities.

Financial data aggregators give users the tools to better understand their own financial position and navigate different kinds of financial products. Although the websites typically do not provide financial advice, there are nevertheless concerns with credibility and conflicts of interest with advertisers. One way to address such issues is through a website run by a government agency can help mitigate problems with perceived lack of independence. The website Sorted.org.nz, run by the New Zealand Retirement Commission, is geared towards individuals in each phase of life. It includes a number of financial calculators, but does not aggregate personal data.

Financial decision tools are websites that help users make specific financial

decisions, such as taking out a mortgage or retiring. These websites may also have a problem with perceived or actual independence from advertisers.

Personal finance communities are user-driven online communities that serve the purpose of both providing advice and aggregating data. The obvious concern with online communities is reliability and credibility of information. While some websites claim to effectively self-police, there is potential for advice and information to be misleading.

Other web-based approaches include online tutorials and simulation games. Simulations generally focus on hypothetical (and in some cases, electronic, or avatar) individuals at every stage of life who have to make representative financial decisions. The goal is to have users think about those hypothetical decisions, and learn how to navigate them in hopes that the lessons of the simulation will be drawn upon in real-life financial decision making. Depending on the design of the tutorial or simulation, different financial lessons may be highlighted.

Other private sector approaches to financial education have also emerged. One entrepreneur of non web-based commercial financial education is Dave Ramsey. Ramsey runs Financial Peace University, which offers over 1,000 courses nationwide to help participants get out of debt and begin saving for long-term goals. Ramsey also has a presence on TV and radio, and has published several books. The popularity of the course appears to be based on the psychological approach that Ramsey uses. Some of the advice runs counter to what economic models would suggest. For example, he tells participants to pay off the smallest loans first, rather than the highest-interest loans. The process he advocates is geared toward emotional victories over debt and habit formation.

One implication of the success of this approach may be that behavioral and

psychological biases in personal finance are strong and consistent predictors of behavior. There are several potential downsides of this approach, though, one of which is that there is little focus on concrete financial information or on numeracy skills in his courses. Learning more about the effects of behavioral approaches, may, however, be useful in determining how to incorporate them into other financial education initiatives.

2. Insights from Previous Public Information Campaigns

A promising way to complement and help organize the massive explosion of online interest is to create a mass media public information campaign. Previous well-known American public information campaigns have targeted behaviors including smoking, sexual practices, diet, drug use, littering, and seat belt use, among other topics. Public campaigns have even been targeted at saving behavior. In the second World War, the government encouraged households to buy U. S. Saving Bonds. Likewise, Japan conducted a very visible effort to raise saving in the 1950s and 1960s (Bernheim 1991). An extensive academic literature has investigated the effectiveness of efforts to change mass behavior and contains important lessons for a campaign that would promote financial literacy.⁶

One key issue is the credibility of the source providing the information. In financial literacy, there is no substitute for the government providing information in an independent manner. While most information that households receive currently comes from the financial sector, a skeptical consumer would be well-advised to be concerned about the independence of the information provided.

A second key lesson is the importance of reaching the targeted audience. One of

⁶ A review of the literature on public information campaigns is beyond the scope of this paper. However, see Abroms and Maibach (2008), Siegel (1998), and Snyder (2007).

the key public health campaigns of the last 50 years focused on smoking behavior. The “truth” campaign, designed by the Florida Department of Health, is often lauded as one of the most successful public health information campaigns. The Florida campaign began as one of the first large-budget campaigns: rather than using donated airtime that would reach fewer people, the organizers of the campaign purchased prime-time advertising spots. The increased effectiveness of such an approach demonstrates the importance of reaching the targeted audience.

Campaigns appear to be more successful when they subdivide the population into relatively homogenous groups and provide a tailored message for each group. An alternative is to provide the same message to all members of a much larger group. This may economize on costs, but dilute the power of the message for many people. One of the advantages of online efforts is that both the universal message and the specially focused message can be conveyed in a less expensive manner than in a traditional campaign. And, of course, in today’s economy, an online presence would not only be an integral part of a campaign, it would likely be the centerpiece. For example, one of the main goals of any written material or public messages would be to drive people to the appropriate web site, where they could find information that was comprehensive and credible.

The literature also emphasizes the importance of messages that are (a) frequent, (b) provided at a time when people are ready to hear and listen and (c) supported by other “messages” that society provides. Interestingly, campaigns that are considered more controversial appear to be more effective. Likewise, those that emphasize information that is new to a group are more effective as well. This raises an interesting point in that

the message of a financial literacy campaign may optimally evolve over time, from the basic points that need to be made at the beginning about the need for saving, to teaching people how and where to save, to focusing on portfolio choices, etc.

Another key lesson is framing the message in a compelling manner. Research suggests that, in order to prevent smoking among adolescents, demonstrating the health dangers of smoking was less effective than portraying the tobacco industry as something to rebel against. Likewise, simply telling people they need to save more may not be a particularly compelling message.

The potential benefits of using social networks to convey information is another lesson gleaned from previous public information campaigns. For example, several campaigns have targeted parents and guardians of adolescents to help to reduce drug and alcohol use. Finally, cultural and community perceptions of the targeted action must be taken into account.

Taken as a whole, there appears to be significant potential from the creation of a financial literacy campaign. Nevertheless, there are also substantial challenges to be met and caveats to be addressed. The main problem with drawing corollaries between previous public information campaigns and financial education is that the bottom line message for financial literacy is both more complex and unclear. The goals of many other public information campaigns have been quite straightforward – stop smoking, buy bonds, wear seat belts, etc. In contrast, the goal of a financial literacy campaign may be complex. Is the goal to reduce myopia? Raise numeracy skills? Improve self-control? To save more? None of those goals lend themselves easily to a simple "sound bite" campaign.

A second cautionary note is that the evidence suggests that public campaigns that try to change *habits*, are less successful than those that require a one- or two-time change in behavior – for example, getting a vaccine. Finally, a word of realism is appropriate. Public health campaigns have been found to have an average effect on the order of 5-10 percent more people performing the desired behavior than previously. Although there is substantial variance around that estimated mean, the effects seem quite small compared to the magnitude of the underlying financial illiteracy problem: recall from section II that only one third of adults were able to give correct answers to all three of the extremely simple Lusardi-Mitchell questions.

3. Financial Literacy in Combination with Other Public Policies

A final task for policy toward financial literacy efforts is to think carefully about how literacy efforts should interact with other public policies toward saving, and the extent to which different policies are substitutes or complements. Public policy employs essentially four different approaches toward increasing household saving: mandates, incentives, choice architecture, and information. For example, the principal mandate related to saving is embodied in Social Security, which “looks like” retirement saving to households (even if at the aggregate level current benefits are paid out of current revenues). Incentives to save include the tax-preferred treatment of contributions to 401(k)s, IRAs, and related accounts, as well the tax credits embodied in the Saver’s Credit for low- and moderate-income households. Recent legislation has encouraged firms to redefine the default choices in their 401(k) plans, and thus to exploit insights from research on choice architecture on ways to raise participation in tax-preferred plans. Public policies provide information about saving in several ways, perhaps most notably

the annual Social Security statement that every participant receives. This complex patchwork of policy actions has met with mixed success, however, and leaves many key policy and empirical questions unanswered.

In a world where households do not have full information about saving issues, and/or are unable to process the information in a fully rational manner, and/or have difficulty implementing and carrying out plans, there is room for interactions among the policies. *Combinations* of policies may make each individual intervention work better than they would in isolation.

For example, the saver's credit provides incentives for low- and moderate-income households to contribute to 401(k)s and IRAs. It is not well understood, however, and so is significantly underutilized (Duflo et al 2006). A financial literacy effort focused on helping households understand the incentive would boost the value of the credit; by helping people to use it more effectively, while the specifically tailored financial education would provide more value-added than would generic information. As a result, the effectiveness of both the incentive and the education program would be enhanced by the existence of the other.

Extending the example, if workers were automatically enrolled in a 401(k) or IRA, the combination of policies could work even better, with the default getting people into a saving plan, the saver's credit boosting the value of their contribution, and the literacy effort helping people understand why to contribute and how to manage their funds. These examples indicate that a potentially fruitful approach for financial literacy initiatives and campaigns would be to focus on interactions with existing policies.

V. Conclusion

Improving financial literacy should be a first-order concern for policy-makers, with potential gains not only for the individuals who would benefit directly, but also for their family members – who might experience a more financially secure working life and retirement, or could attend a more expensive college (or attend college at all) – and for society at large – which would experience social and economic gains from the reduced financial vulnerability of many of its members. There is a key role for the private sector in enhancing financial literacy and the market is responding rapidly to try to fill the void. At the same time, there is an at least equally important role for the public sector. First, the public sector can provide information that is credible and is seen as credible, on a timely basis, via a campaign that revolves around a comprehensive website. Second, efforts to integrate existing policies toward saving could improve the effects of financial literacy initiatives as well as increase the power of more traditional efforts to boost saving. Pursuing these changes will be an exciting direction for both public policy and economic research.

References

- Abrams, Lorien C. and Edward W. Maibach, 2008. "The Effectiveness of Mass Communication to Change Public Behavior." *Annual Review of Public Health*, 29: 219-34.
- Agarwal, Sumit, John C. Driscoll, Xavier Gabaix and David Laibson, 2009a. "The Age of Reason: Financial Decisions over the Life-Cycle with Implications for Regulation." *Brookings Papers on Economic Activity*.
- Agarwal, Sumit, Gene Amromin, Itzhak Ben-David, Souphala Chomsisengphet, Douglas D. Evanoff, 2009b. "Do Financial Counseling Mandates Improve Mortgage Choice and performance? Evidence from a Legislative Experiment." Fisher College of Business Working Paper Series, 2008-20.
- Ameriks, John, Andrew Caplin and John Leahy, 2003. "Wealth Accumulation and the Propensity to Plan." *Quarterly Journal of Economics*, 118(3): 1007-1046.
- Bayer, Patrick J., B. Douglas Bernheim and John Karl Scholz, 1996. "The Effects of Education in the Workplace: Evidence from a Survey of Employers." NBER Working Paper 5655.
- Bernheim, B. Douglas, 1991. *The Vanishing Nest Egg: Reflections on Saving In America*. A Twentieth Century Fund Paper.
- Bernheim, B. Douglas, 1995. "Do Households Appreciate their Financial Vulnerabilities? An Analysis of Actions, Perceptions, and Public Policy." *Tax Policy and Economic Growth*, American Council for Capital Formation, Washington, D.C.
- Bernheim, B. Douglas, 1998. "Financial Illiteracy, Education, and Retirement Saving," in *Living with Defined Contribution Pensions* ed. Mitchell, Olivia S. and Sylvester J. Schieber. University of Pennsylvania Press, Philadelphia.
- Bernheim, B. Douglas and Daniel M. Garrett, 2003. "The Effects of Financial Education in the Workplace: Evidence from a Survey of Households." *Journal of Public Economics*. 87: 1487-1519.
- Bernheim, B. Douglas, Daniel M. Garrett and Dean M. Maki, 2001. "Education and Saving: The Long-term Effects of High School Financial Curriculum Mandates." *Journal of Public Economics*, 80: 435-465.
- Beshears, John, James J. Choi, David Laibson, Brigitte C. Madrian, 2006. "Simplification and Saving." NBER Working Paper 12659.
- Braunstein, Sandra and Carolyn Welch, 2002. "Financial Literacy: An Overview of Practice, Research, and Policy." Federal Reserve Bulletin.

Bucks, Brian and Karen Pence, 2006. "Do Homeowners Know Their House Values and Mortgage Terms?" Federal Reserve Board of Governors.

Center for Retirement Research, 2010. "Financial Literacy on the Internet." Boston College.

Campbell, John, 2006. "Household Finance." NBER Working Paper 12149.

Christelis, Dimitris, Jappelli, Tullio and Padula, Mario, 2008. "Cognitive Abilities and Portfolio Choice." University of Venice, Economics Working Paper No. 19/WP/2008.

Clancy, Margaret, Michal Grinstein-Weiss and Mark Schreiner, 2001. "Financial Education and Savings Outcomes in Individual Development Accounts." Working Paper, Washington University in St. Louis.

Clark, Robert L. and Madeleine d'Ambrosio, 2008. "Adjusting Retirement Goals and Saving Behavior: The Role of Financial Education," in *Overcoming the Savings Slump* Ed. Lusardi, Annamaria, p. 237-255. Chicago University Press, Chicago.

Clark, Robert L. and Sylvester J. Schieber, 1998. "Rates and Contribution Levels in 401(k) Plans," in *Living with Defined Contribution Pension Plans* Eds. Olivia S. Mitchell and Sylvester J. Schieber. University of Pennsylvania Press, Philadelphia.

Cole, Shawn and Gauri Kartini Shastry, 2008. "If You Are So Smart, Why Aren't You Rich? The Effects of Education, Financial Literacy and Cognitive Ability on Financial Market Participation." Harvard Business School Working Paper.

Consumer Federation of America and The Financial Planning Association, 2006. "How Americans View Personal Wealth vs. How Financial Planners View This Wealth."

Ding ,Lei, Quercia, Roberto G. and Ratcliffe, Janneke, 2008. "Post-Purchase Counseling and Default Resolutions Among Low- and Moderate-Income Borrowers." *Journal of Real Estate Research (JRER)*, Vol. 30, No. 3.

Duflo, Esther, and Emmanuel Saez, 2002. "Participation and Investment Decisions in a Retirement Plan: The Influence of Colleagues' Choices," *Journal of Public Economics*, LXXXV (2002), 121-148.

Duflo, Esther and Emmanuel Saez, 2003. "The Role of Information and Social Interactions in Retirement Plan Decisions: Evidence from a Randomized Experiment." *Quarterly Journal of Economics*, 118(3): 815-842.

Duflo, Esther, William Gale, Jeffrey Liebman, Peter Orszag, and Emmanuel Saez. 2006. "Saving Incentives for Low- and Middle-Income Families: Evidence from a Field Experiment with H&R Block." *Quarterly Journal of Economics*. November. 121:4. 1311-46.

- Eliehausen, Gregory, E. Christopher Lundquist and Michael E. Staten, 2003. "The Impact of Credit Counseling on Subsequent Borrower Credit Usage and Payment Behavior." Federal Reserve Working Paper.
- Gerardi, Kristopher, Lorenz Goette, and Stephan Meier, 2010. "Financial Literacy and Subprime Mortgage Delinquency: Evidence from a Survey Matched to Administrative Data." Federal Reserve Bank of Atlanta Working Paper Series No. 2010-10
- Hilgert, Marianne A. and Jeanne M. Hogarth, 2003. "Household Financial Management: The Connection between Knowledge and Behavior." Federal Reserve Bulletin.
- Hirad, Abdighani and Peter M. Zorn, 2001. "A Little Knowledge is a Good Thing: Empirical Evidence of the Effectiveness of Pre-Purchase Homeownership Counseling." Working Paper
- Lusardi, Annamaria, 1999. "Information, Expectations, and Savings for Retirement," in *Behavioral Dimensions of Retirement Economics* Ed. Henry Aaron. Washington, D.C.: Brookings Institution Press and Russell Sage Foundation, pp. 81-115
- Lusardi, Annamaria, 2002. Preparing for Retirement: The Importance of Planning Costs. National Tax Association Proceedings, p. 148-154.
- Lusardi, Annamaria, 2003a. "Saving and the Effectiveness of Financial Education." Pension Research Council Working Paper 2003-14. Philadelphia, PA: Pension Research Council.
- Lusardi, Annamaria, 2003b. "Planning and Saving for Retirement." Dartmouth College.
- Lusardi, Annamaria, 2008a. "Household Saving Behavior: The Role of Financial Literacy, Information, and Financial Education Programs." NBER Working Paper No. 13824.
- Lusardi, Annamaria, 2008b. "Financial Literacy: An Essential Tool for Informed Consumer Choice?" NBER Working Paper 14084.
- Lusardi, Annamaria, 2008c. "Increasing the Effectiveness of Financial Education in the Workplace. Center for Research on Pensions and Welfare Policies, Working Paper 79/08.
- Lusardi, Annamaria and Jason Beeler, 2006. "Savings Between Cohorts: The Role of Planning." Michigan Retirement Research Center Working Paper.
- Lusardi, Annamaria, Punam Anand Keller and Adam M. Keller, 2008. "New Ways to Make People Save: A Social Marketing Approach," in *Overcoming the Savings Slump* Ed. Lusardi, Annamaria, p. 209-236. Chicago University Press, Chicago.

Lusardi, Annamaria and Olivia S. Mitchell, 2005. "Financial Literacy and Planning: Implications for Retirement Wellbeing." Michigan Retirement Research Center Research Paper No. WP 2005-108.

Lusardi, Annamaria and Olivia S. Mitchell, 2006. "Baby boomer Retirement Security: the Roles of Planning, Financial Literacy and Housing Wealth." NBER Working Paper No. 12585.

Lusardi, Annamaria and Olivia S. Mitchell, 2008. "Planning and Financial Literacy: How do Women Fare?" *American Economic Review: Papers and Proceedings* 2008, 98:2,413-417.

Lusardi, Annamaria and Olivia S. Mitchell, 2009a. "Financial Literacy, Retirement Planning, and Retirement Wellbeing: Lessons and Research Gaps." Prepared for the RSP Conference on Financial Literacy. Washington, D.C.

Lusardi, Annamaria and Olivia S. Mitchell, 2009b. "How Ordinary Consumers Make Complex Economic Decisions: Financial Literacy and Retirement Readiness."

Lusardi, Annamaria, Olivia S. Mitchell and Vilsa Curto, 2009c. "Financial Literacy Among the Young: Evidence and Implications for Consumer Policy." NBER Working Paper No. 15352.

Lusardi, Annamaria and Peter Tufano, 2008. "Debt Literacy, Financial Experience and Overindebtedness." Working Paper.

Madrian, Brigitte and Dennis Shea, 2001. "The Power of Suggestion; Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics*, 116(4): 1149-1187.

Maki, Dean M, 2004. "Financial Education and Private Pensions" in "Private Pensions and Public Policies." Eds. Gale, William G., John B. Shoven, and Mark. J. Warshawsky. Brookings Institution Press, Washington, D.C.

Mandell, Lewis, 2008. "Financial Education in High School" in *Overcoming the Savings Slump* Ed. Lusardi, Annamaria, p. 257-279. Chicago University Press, Chicago.

Martin, Matthew, 2007. "A Literature Review on the Effectiveness of Financial Education." Federal Reserve Bank of Richmond, Working Paper 07-03.

Mills, Gregory, William G. Gale, Rhiannon Patterson, Gary V. Engelhardt, Michael D. Eriksen, and Emil Apostolov, 2008. "Effects of individual development accounts on asset purchases and saving behavior: Evidence from a controlled experiment." *Journal of Public Economics*, vo. 92(5-6):1509-1530.

Muller, Leslie A., 2002. "Does Retirement Education Teach People to Save Pension Distributions?" *Social Security Bulletin*, 64(4): 48-65.

National Endowment for Financial Education, 2009. "Financial Management Practices of College Students from States with Varying Financial Education Mandates."

Quercia, Roberto and Jonathan Spader, 2008. "Does Homeownership Counseling Affect the Prepayment and Default Behavior of Affordable Mortgage Borrowers?" *Journal of Policy Analysis and Management*, 27(2): 304-325.

Sherraden, Michael and Ray Boshara, 2008. "Learning from Individual Development Accounts" in *Overcoming the Savings Slump* Ed. Lusardi, Annamaria, p. 280-296 Chicago University Press, Chicago.

Siegel, Michael, 1998. "Mass Media Antismoking Campaigns: A Powerful Tool for Health Promotion." *Annals of Internal Medicine*, vol. 129 no. 2 128-132.

Snyder, Leslie B., 2007. "Health Communication Campaigns and Their Impact on Behavior." *Journal of Nutritional and Educational Behavior* 2007; 39; S32-S40.

Stango, Victor and Jonathan Zinman, 2008. "Debit "Debit or Credit: How People Choose to Pay." Research Monograph, Filene Institute.

Thaler, Richard H., and Shlomo Benartzi, 2004. "Save More TomorrowTM: sing Behavioral Economics to Increase Employee Saving." *Journal of Political Economy* 112(1), S.164-187.

Tennyson, Sharon and Chau Nguyen, 2001. "State Curriculum Mandates and Student Knowledge of Personal Finance." *Journal of Consumer Affairs*. 35(21): 241-262.

van Rooij, Maarten, Annamaria Lusardi and Rob Alessie, 2007. "Financial Literacy and Stock Market Participation." NBER Working Paper 13565

Willis, Robert, 2009. "Disentangling Cognitive Function and Financial Literacy: Implications for Financial Retirement Security Research." Prepared for the RSP Conference on Financial Literacy. Washington, D.C.