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**Increasing the Effectiveness of
Financial Education in the Workplace**

Annamaria Lusardi





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**Increasing the Effectiveness of
Financial Education in the Workplace***

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More than ever before, individuals are in charge of their own financial security after retirement. With the shift from defined benefit to defined contribution pension plans that has occurred over the past twenty years, individuals increasingly have to decide how much to save and how to allocate their pension wealth. The necessary decisions are daunting and are made more difficult by the increased complexity of financial instruments; investors have to deal with a vast array of new and sophisticated financial products. Saving decisions now require not only that individuals be informed about their pensions, but also that they be knowledgeable about finance and economics.

Yet, there is mounting evidence that people are unfamiliar with even the most basic economic concepts. Throughout the book I edited last year and in many papers I have written in collaboration with other researchers, evidence is shown of widespread financial illiteracy in the United States. Older workers display little knowledge of the power of interest compounding, the effects of inflation, and the workings of risk diversification.² Even among individuals in their prime earning years, such as Early Baby Boomers, who were 51–56 years old in 2004, there is evidence of low numeracy and limited understanding of interest compounding. Knowledge of more advanced financial concepts, such as the difference between bonds and stocks, the workings of mutual funds, and basic asset pricing is even scarcer. These findings are not only widespread, but are particularly severe among specific demographic groups, such as women, those with low education and low income, and African-Americans and Hispanics.³ Individuals also display low *debt literacy*; only a little more than one-third of respondents in a representative sample of the U.S. population can figure out how quickly debt can grow when borrowing at an interest rate of 20 percent. Similarly, only 36 percent know how to eliminate credit card debt by

² See Lusardi and Mitchell (2006).

³ For more detail, see Lusardi and Mitchell (2007a, 2008, 2008b) and Lusardi (2007).

making small payments over time, and a meager 7 percent are able to correctly pick the more advantageous method of payment out of two options.⁴ Finally, many individuals participating in customized surveys report that not having enough knowledge about finance/investing represents one of the most difficult elements of their saving decisions. Consistent with this fact, many individuals consider themselves simple investors.⁵

Lack of information about pensions—one of the critical components of retirement wealth—is also widespread. When comparing workers’ and employers’ reports about pensions, Gustman, Steinmeier, and Tabatabai (2008) find that close to half of older workers were not able to correctly identify their pension plan type. Workers misreport their pension plan type because they do not understand their pensions well, and today’s workers need—at minimum—an adequate level of understanding of pensions in order to be sure of funding them properly. Knowledge about Social Security is also scanty. As was noted in the Employee Benefit Research Institute report describing the findings from the 2007 Retirement Confidence Survey, even though it has been 24 years since legislation was passed that increased in increments the normal retirement age for Social Security, and despite 8 years of annual mailings of individual benefit statements from the Social Security Administration, only 18 percent of workers know the correct age at which they will be entitled to full Social Security benefits. Consistent with evidence of lack of information about major components of retirement wealth, research shows that many workers do not plan for retirement, even when they are only 5 to 10 years away from it. Lack of planning is not only widespread among older generations, but it is also present among current Baby Boomers.⁶

⁴ See Lusardi and Tufano (2008).

⁵ See Lusardi, Keller, and Keller (2008)

⁶ See Lusardi (1999, 2007) and Lusardi and Beeler (2007)

Lack of information and lack of financial literacy provide fertile ground for financial errors. Left to their own devices, employees may choose to invest their pension wealth in either too-conservative or too-aggressive assets. An analysis of portfolio allocation from a large sample of investors offers compelling evidence that portfolio allocation can be improved upon.⁷ Moreover, those who display low literacy are more likely to have problems with debt, are less likely to participate in the stock market, and less likely to plan for retirement.⁸ Those who do not plan, arrive at retirement with much less wealth than those who do plan.⁹

Financial education

Most large firms, particularly those with defined contribution pension plans, offer some form of financial or investment education program. The evidence on the effectiveness of these programs is, so far, rather mixed.¹⁰ There is evidence of some positive effect of financial education on savings and pensions, but the type of education seems to matter. For example, Bernheim and Garrett (2003) find that programs that rely on print media (newsletters, plan descriptions, etc.) have generally no effect on pension participation or contributions, even though the quality of financial information does matter (Clark and Schieber, 1998). Only a few studies find that those who attend a retirement seminar are much more likely to save and contribute to pensions.¹¹ Clearly, those who attend seminars are not necessarily a random group of workers. Because attendance is voluntary, it is likely that those who attend have a proclivity to save, and it is hard to disentangle whether it is seminars, per se, or simply the characteristics of seminar

⁷ See Mottola and Utkus (2008).

⁸ See Lusardi and Tufano (2008), van Rooij, Lusardi, and Alessie (2007), and Lusardi and Mitchell (2006).

⁹ See Lusardi and Mitchell (2007a).

¹⁰ See Lusardi (2004) and Lusardi and Mitchell (2007b) for a review of the effectiveness of financial education programs.

¹¹ See Bernheim and Garrett (2003) and Lusardi (2004).

attendees that explain the higher savings of attendees that are shown in the empirical estimates. However, Bernheim and Garrett (2003) argue that seminars are often remedial, i.e., offered in firms where workers do little or no saving. In their work, they find that the effect of seminars is concentrated in the first two quartiles of wealth and decreases or disappears at higher values of wealth holdings, a finding difficult to rationalize simply by appealing to tastes for saving.

Lusardi (2004) uses data from the Health and Retirement Study and confirms the findings of Bernheim and Garrett (2003). Consistent with the fact that seminars are remedial, she finds that the effect of seminars is particularly strong for those at the bottom of the wealth distribution and for those with low education. Estimated effects are sizable for the least wealthy, for whom attending seminars appears to increase financial wealth (a measure of retirement savings that excludes housing and business equity) by approximately 18 percent. Note also that seminars affect not only private wealth but also measures of wealth that include pensions and Social Security wealth, perhaps because seminars provide information about pensions and encourage workers to participate and contribute. This can be important because, as mentioned before, workers are often uninformed about their pensions. Additionally, seminars affect accumulation by changing not only how much people save but also how they invest their portfolios; for example, those who have attended seminars are more likely to hold stocks. Analysis by education groups confirms that those with low education and lower wealth respond to retirement seminars by purchasing more stocks, while there is no comparable effect of seminars on those with high education.¹²

While these studies were able to single out the effects of financial education, one should also note that a only small fraction of workers ever attend retirement seminars or work at firms that offer such seminars. Thus, many workers are left untouched by such initiatives.

¹² See Lusardi (2005).

Other papers find rather modest effects of education programs. Duflo and Saez (2003, 2004) investigate the effects of exposing employees of a large not-for-profit institution to a benefit fair. This study is notable for its rigorous methodology; a randomly chosen group of employees was given a monetary incentive (\$20) to attend a benefit fair, and their behavior was compared with that of a similar group in which individuals were not offered any incentives to attend the fair. This methodology overcomes the problem mentioned before that those who attend education programs may already be inclined to save. Findings from this study show that incentives to attend greatly increase participation in the fair. Those who were provided with a monetary incentive were more than five times as likely to attend than other employees. Interestingly, even those who were not offered an incentive but were in departments with employees who did receive such an incentive were three times as likely to attend, indicating that peer effects are at work in these types of decisions. After attending the fair, individuals who received an incentive to participate were significantly more likely to start contributing to a Tax Deferred Account retirement plan. However, the same was shown to be true for those individuals who did not receive the financial incentive but who worked in departments where other employees received an incentive, again suggesting that people may be highly influenced by the behavior of those around them.

In a series of papers, Clark and D'Ambrosio (2008) examined the effects of seminars offered by TIAA-CREF at a variety of institutions. The objective of the seminars was to provide financial information that would assist individuals in the retirement planning process. The authors' empirical analysis is based on information obtained via three surveys: participants completed a first survey prior to the start of the seminar, a second survey at the end of the seminar, and a third survey several months later. Respondents were asked whether they had

changed their retirement age goals or revised their desired level of retirement income after the seminar.

After attending the seminar, several participants stated they intended to change their retirement goals and many revised their desired level of retirement income. Thus, the information provided in the seminars did have some effect on behavior. However, it was only a minority of participants who were affected by the seminars. Just 12 percent of seminar attendees reported changes in retirement age goals, and approximately 30 percent reported changes in retirement income goals. Moreover, intentions did not translate into actions. When interviewed several months later, many of those who had intended to make changes had not yet implemented them. Another conclusion of the study was that the effect of the seminar was rather different among demographic groups. For example, the study highlights rather pronounced gender differences in saving behavior. Before attending the seminars, women displayed less confidence in their ability to attain their retirement goals than men. But women were substantially more likely than men to increase their expected retirement age and to alter their retirement goals. Thus, evaluating the effects of seminars on the whole population of participants may understate its impact on specific groups.

It is not surprising that one retirement seminar does little to change behavior. Few surveys on the topic provide information on the number of seminars offered or the number that participants attended, but it seems that participants often attend only once or a handful of times (Clark and D'Ambrosio, 2008). But widespread financial illiteracy cannot be "cured" by a one-time benefit fair or a single seminar on financial economics. This is not because financial education is ineffective, but because these programs are too small with respect to the size of the problem they are trying to address. Evidence from financial education sessions offered in

programs aimed to promote Individual Development Accounts (IDAs), which are subsidized savings accounts targeted at the poor, show that multiple education sessions are effective in stimulating saving (Schreiner and Sherraden, 2007).

Increasing the effectiveness of financial education programs

The evaluation of the programs implemented so far suggests that exposing workers to information or education sessions may be insufficient to stimulate behavior. As I have highlighted in most of my papers, saving is a complex decision and requires knowledge well beyond what most employees seem to possess. One way to help people save is to find ways to simplify saving decisions. This is the strategy analyzed by Choi, Laibson, and Madrian (2006). They study the effect of Quick Enrollment, a program that gives workers the option of enrolling in the employer-provided saving plan by opting into a preset default contribution rate and asset allocation. Unlike default options, where workers are automatically enrolled into a pensions plan, in this program workers have the choice to enroll or not, but the decision is much simplified as they do not have to decide at which rate to contribute or how to allocate their pension assets.

When new hires were exposed to the Quick Enrollment program, participation rates in 401(k) plans tripled, going from 5 percent to 19 percent in the first month of enrollment. When the program was offered to previously hired nonparticipants, participation increased by 10 to 20 percentage points. These are large increases, particularly if one considers that the preset default contribution rate was not particularly advantageous: the contribution rate in the most successful program was set at only 2 percent, with 50 percent of assets allocated to money market mutual funds and 50 percent allocated to a balanced fund. Moreover, Quick Enrollment is particularly popular among African-Americans and lower income workers who, as the research mentioned before shows, are less likely to be financially literate. Thus, changes in pension design can have

a significant impact on participation. Most importantly, programs such as this can be implemented at a low cost.

The finding, noted earlier, that people have difficulty following through on planned actions further suggests that education alone may not be sufficient to influence behavior. Rather, it is important to give consumers the tools to change their behaviors. Another approach intended to simplify the decision to save and, in addition, help employees make an active choice is the one designed by Lusardi, Keller, and Keller (2008). They devised a planning aid to be distributed to new hires during employee orientation. The planning aid displays several critical features. First, it breaks down the process of enrollment in supplementary pensions into several small steps, describing to participants what they need to do to be able to enroll in a plan online. Moreover, it provides several pieces of information to help overcome identified barriers to saving, such as describing the low minimum amount of income employees can contribute (in addition to the maximum) and indicating the default fund that the employer has chosen for them (a life-cycle fund). Finally, the planning aid contains pictures and messages designed to motivate participants to save.

The planning aid was designed after thorough data collection. The researchers devised a survey asking explicitly about barriers to saving, sources of financial advice, level of financial knowledge, and attractive features of a pension plan. Moreover, they conducted focus groups and in-depth interviews (with both employees and human resources administrators) to shed more light on the impediments to saving of employees at this institution. These data collection methods, which are common in the field of marketing, are well suited to capturing the wide heterogeneity that exists among individuals facing saving decisions. Even though the sample in this study is small, and hardly representative of the U.S. population, it displays findings that are

consistent with the evidence described above. For example, many employees in this study stated that they consult only family and friends when making saving decisions. Close to 40 percent stated that they do not have enough knowledge about finance/investing, and close to 20 percent stated that they do not know where to start. Similar to the findings of Clark and D'Ambrosio (2008) and Choi, Laibson, and Madrian (2006), women were found to be more reactive to the saving program. The program was very successful; contribution rates to supplementary retirement accounts tripled after the introduction of the customized planning aid.

The planning aid was further supplemented with new methods of providing information and advice to employees. Given the evidence reported in previous studies of the importance of “peer effects” on saving and low levels of numeracy among employees, particularly among women and those with low income, videos were made available to employees. These videos provided testimonials of how other employees in the same institution overcame barriers to saving. They also provided implicit suggestions on how to save and how to invest retirement wealth. The targeted groups were women and low-income employees, and only employees in these two groups were shown in the videos.¹³

This program highlights several important considerations. First, while economic incentives, such as employer matches or tax advantages may be useful, they do not exhaust the methods that can be employed to encourage people to save. In fact, given the identified lack of information and financial knowledge among the general population, there may exist other, more cost-effective, programs that can induce people to save. Second, employees are more prone to decision-making at specific times. As discussed before, many people do not plan for retirement even at an advanced age, and it may be very important to exploit “teachable moments.” For

¹³ The videos are available on the following web site:
http://www.dartmouth.edu/~hrs/benefits/saving_for_retirement.html

example, the start of a new job induces people to think about saving. Thus, it may be particularly beneficial to target initiatives to employees who are newly hired, as this is the group that is the most open to changes, since they are already in the process of making decisions regarding saving and retirement planning. Third, to be effective, programs have to recognize the many differences that exist among individuals, not only in terms of preferences and economic circumstances, but also in the level of knowledge, financial sophistication, and ability to carry through with plans. In other words, relying on “one-size-fits-all” principles can lead to rather ineffective programs. Note that a planning aid can work in conjunction with other saving mechanisms. In other words, a planning aid can supplement rather than substitute for existing (or new) initiatives to promote saving. Combined with other initiatives, planning aids can significantly enhance employees’ retirement security. Finally, this is not only an effective initiative but also one that is low-cost.

While the mixed evidence on financial education programs has led some to question whether it is worth offering these programs, the evidence gathered in this article shows that it is possible to increase the effectiveness of financial education programs. The problems are many and the challenges are daunting, but programs can be designed to change saving behavior. We have a wealth of information to rely on, as we are increasingly understanding the variables at play in providing and promoting effective saving and financial education programs. That information should make effective financial education and improved saving increasingly possible as we move further into a very different pension landscape and a financial world of increased individual responsibility for financial well-being.

References

- Bernheim, Douglas and Daniel Garrett (2003), “The Effects of Financial Education in the Workplace: Evidence from a Survey of Households,” *Journal of Public Economics*, 87, pp.1487–1519.
- Clark, Robert and Madeleine D’Ambrosio (2008), “Adjusting Retirement Goals and Saving Behavior: The Role of Financial Education,” forthcoming in Annamaria Lusardi (ed.), *Overcoming the Saving Slump: How to Increase the Effectiveness of Financial Education and Saving Programs*, University of Chicago Press.
- Clark, Robert and Sylvester Schieber (1998), “Factors Affecting Participation Rates and Contribution Levels in 401(k) Plans,” in Olivia Mitchell and Sylvester Schieber (eds.), *Living with Defined Contribution Pensions*, Philadelphia: University of Pennsylvania Press, pp.69-97.
- Choi, James, David Laibson, and Brigitte Madrian (2006), “Reducing the Complexity Costs of 401(k) Participation Through Quick Enrollment (TM),” NBER Working Paper n. 11979.
- 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, pp. 815–842.
- Duflo, Esther and Emmanuel Saez (2004), “Implications of Pension Plan Features, Information, and Social Interactions for Retirement Saving Decisions,” in Olivia S. Mitchell and Stephen Utkus (eds.), *Pension Design and Structure: New Lessons from Behavioral Finance*, Oxford: Oxford University Press, pp. 137–153.
- Gustman, Alan, Thomas Steinmeier, and Nahid Tabatabai (2008), “Do Workers Know about Their Pension Plan Type? Comparing Workers’ and Employers’ Pension Information,” forthcoming in Annamaria Lusardi (ed.), *Overcoming the Saving Slump: How to Increase the Effectiveness of Financial Education and Saving Programs*, University of Chicago Press.
- Lusardi, Annamaria (1999), “Information, Expectations, and Savings for Retirement,” in Henry Aaron (ed.), *Behavioral Dimensions of Retirement Economics*, Washington, D.C.: Brookings Institution and Russell Sage Foundation, pp. 81-115.
- Lusardi, Annamaria (2004), “Savings and the Effectiveness of Financial Education,” in Olivia S. Mitchell and Stephen Utkus (eds.), *Pension Design and Structure: New Lessons from Behavioral Finance*, Oxford: Oxford University Press, pp. 157–184.
- Lusardi, Annamaria (2005), “Financial Education and the Saving Behavior of African American and Hispanic Households,” Report for the U.S. Department of Labor.
http://www.dartmouth.edu/~alusardi/Papers/Lusardi_pdf.pdf

Lusardi, Annamaria (2007), “Household Saving Behavior: The Role of Literacy, Information and Financial Education Programs,” for the book *Implications of Behavioral Economics for Economic Policy*.

Lusardi, Annamaria (2008), “Financial Literacy: An Essential Tool for Informed Consumer Choice?,” Working Paper, Joint Center for Housing Studies, Harvard University.
http://www.jchs.harvard.edu/publications/finance/understanding_consumer_credit/papers/ucc08-11_lusardi.pdf

Lusardi, Annamaria and Jason Beeler (2007), “Saving Between Cohorts: The Role of Planning,” in Brigitte Madrian, Olivia Mitchell, Beth Soldo (eds), *Redefining Retirement. How Will Boomers Fare?*, Oxford: Oxford University Press, pp. 271–295.

Lusardi, Annamaria, Punam Keller and Adam Keller (2008), “New Ways to Make People Save: A Social Marketing Approach,” forthcoming in Annamaria Lusardi (ed.), *Overcoming the Saving Slump: How to Increase the Effectiveness of Financial Education and Saving Programs*, University of Chicago Press.

Lusardi, Annamaria and Olivia S. Mitchell (2006), “Financial Literacy and Planning: Implications for Retirement Wellbeing,” Working Paper, Pension Research Council, Wharton School, University of Pennsylvania.

Lusardi, Annamaria and Olivia S. Mitchell (2007a), “Baby Boomer Retirement Security: The Role of Planning, Financial Literacy, and Housing Wealth,” *Journal of Monetary Economics*, 54, pp. 205–224.

Lusardi, Annamaria and Olivia Mitchell (2007b), “Financial Literacy and Retirement Preparedness. Evidence and Implications for Financial Education,” *Business Economics*, January 2007, pp. 35–44.

Lusardi, Annamaria and Olivia Mitchell (2008a), “Planning and Financial Literacy: How Do Women Fare?,” forthcoming *American Economic Review*, May 2008.

Lusardi, Annamaria and Olivia Mitchell (2008b), “How Much Do People Know About Economics and Finance? Financial Illiteracy and the Importance of Financial Education,” *Policy Brief* n. 5, MRRC, March 2008.

Lusardi, Annamaria and Peter Tufano (2008), “Debt Literacy, Financial Experience and Overindebtedness”? Mimeo, Harvard Business School.

Mottola, Gary, and Stephen Ukus (2008), “Red, Yellow, and Green: Measuring the Quality of 401(k) Portfolio Choices” forthcoming in Annamaria Lusardi (ed.), *Overcoming the Saving Slump: How to Increase the Effectiveness of Financial Education and Saving Programs*, University of Chicago Press.

Schreiner Mark and Michael Sherraden (2007), *Can the Poor Save? Saving and Asset Building in Individual Development Accounts*, New Brunswick, NJ: Transaction Publishers.

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

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