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Policymaking Insights from Behavioral Economics

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Comments on “ U.S. Household Saving Behavior: The Role of Financial Literacy, Information, and Financial Education Programs” by Annamaria Lusardi

David I. Laibson

Annamaria Lusardi’s paper is a wonderful summary of what is known about financial literacy and financial decisionmaking. I strongly recommend that anyone who is thinking about household savings behavior or savings policy read her paper. It emphasizes the recent findings that Lusardi and her coauthors have generated: financial illiteracy is an important contributor to suboptimal investment choices.

My comments cover four topics. First, I discuss the classical economic argument that economic choices might be sophisticated even if an economic agent lacks formal knowledge. I acknowledge the general plausibility of this argument, but argue that costly mistakes are nevertheless common in the financial domain.

Second, I argue that we should use field experiments to measure the net benefits of educational interventions. I emphasize the important role of cost-benefit analysis.

Third, I discuss some evidence that educational interventions are likely to have only a modest effect on savings and investment behavior in the United States. I show that many educational interventions have relatively poor effectiveness.

Fourth, I show that there are other kinds of inexpensive interventions that generate large increases in savings. I emphasize the role of defaults, active decisions, and simplified savings mechanisms. Finally, I conclude by emphasizing the parallels between physicians and financial advisers.

1. What about Financial Choices?

Economists often use Milton Friedman's billiards example to explain why untrained economic agents might still make optimal choices. In Friedman's example, expert billiards players, who have no formal physics training, nevertheless play pool as if they had a perfect understanding of kinetics.

Likewise, some economists argue that investors who have no formal knowledge of finance (or dynamic optimization theory) might use an intuitive understanding of their self-interest to make sophisticated saving and investment choices. An economist could therefore argue that Lusardi is wrong to worry about financial knowledge, claiming that "what really matters is behavior and investors will somehow get *that* right."

Lusardi is not wrong. Friedman's expert billiards players are the exception and not the rule. Most of us play pool poorly. Even if Friedman is right about the population of *professional* billiards players, his observation has little relevance for the rest of us.

The same issues arise in the domain of investing. There are some highly experienced (and highly selected) traders who make great investment choices. Many of them have no formal training in finance. The existence of these savants proves that formal education is not necessary for good investment choices. But just because one *can* make good financial choices without formal financial knowledge doesn't mean that most of us do. Indeed, economists frequently find that many if not most investors make large mistakes.

My own work has studied such financial choices. In essence, my collaborators and I have been studying how nonprofessional billiards players perform in high stakes settings where they have strong incentives to make the shot. With collaborators James Choi, Brigitte Madrian, and Andrew Metrick we have found that optimization theory is not a good "as if" model. Investors do not behave as if they optimize. Instead, they accept the defaults that their employers set, even when it is trivial to opt out of the default (Madrian and Shea 2001a; Choi et al. 2002, 2004, 2006; and Beshears et al. 2008). Other violations of "as if" rationality abound. Employer stock dominates retirement portfolios, even when diversification is allowed (Choi, Laibson, and Madrian 2005, Choi,

Laibson, and Madrian forthcoming). Employer-matching payments go unclaimed, even when there is a pure arbitrage opportunity for workers (Choi, Laibson, and Madrian 2008a).

To expand this last example, U.S. workers older than 59-and-a-half-years are allowed to withdraw balances from their 401(k) plan without a tax penalty. Moreover, they do not need to demonstrate financial hardship. Nevertheless, about half of the 401(k)-eligible workforce aged over 59-and-a-half-years does not contribute up to their employer's match threshold. On average they lose 1.6 percent of their pay because they do not make a 10 minute enrollment phone call to take advantage of a (liquid) savings account with a matching employer contribution.

2. Educational Interventions?

Lusardi's research has convinced me that financial illiteracy plays an important role in facilitating these bad financial choices. Public policy should try to redress this problem by raising financial literacy. I think that a key place that we are failing is in U.S. high schools. When I was a high school student, I read dozens of nineteenth-century English novels but nobody mentioned the concept of compound interest.

We *should* read lots of literature in high school. And we should also spend at least some time learning economics. Our high schools currently have the balance wrong. Indeed, we should reevaluate the high school curriculum. Applied mathematics should partially replace pure mathematics. Likewise, statistics, economics, and speech all deserve some time.

We should also think about creative opportunities for adult education. Wherever we intervene educationally we should be careful to measure the results. As Lusardi emphasizes, for an educational intervention to be desirable it has to change behavior at a reasonable social cost. As I'll argue below, many of the (inexpensive) interventions that have been tried to date have flopped. To find the educational interventions that work, we'll need lots of controlled experiments, executed on a small scale and evaluated with cost-benefit measures. Many experiments will spawn a few successes, and those cost-effective successes should then be adopted as policy. Until these cost-effective interventions are identified in the field, we are not yet ready to make policy.

3. Observations about the Design of Effective Education Interventions

There are five factors to take into account when designing educational policy interventions. Some of these factors are conceptual. First, the investment problem is highly complex. For example, we have a blizzard of savings vehicles: defined benefit, cash balance, money purchase, annuity, variable annuity, 529, UGMA accounts, 401(a), 401(k), 403(b), 457, Keogh, Individual Retirement Accounts (IRA), Simplified Employee Pension-IRAs, Roth IRA, Employee Stock Ownership Plans, and so on. To make optimal retirement choices, one needs to understand the ins and outs of the U.S. tax code, as well as basic principles of finance and dynamic optimization. We don't expect people to repair their cars or prescribe antibiotics for themselves. We don't worry about their lack of education in these areas. It is likely that financial decisionmaking should also be delegated to third parties. (If this is right, we should be teaching households how to monitor these third parties, not how to make these decisions themselves.)

Second, even if we did give people a perfect training in personal finance, we would need to continuously update their knowledge and skills, since the institutional environment is always changing. When I started in high school in 1984, most people saved through defined benefit pension plans. By the 1990s, defined benefit plans were on their way out and the 401(k) was the new kid on the block. Even if I had gone to high school in 1994, I could not have learned about saving institutions that are *now* commonplace. For instance, automatic enrollment, 529 plans, exchange-traded funds, exchange-traded notes, target date funds, automatic escalators, 401(k) loans, hedge funds, mortgage-backed securities, and infrastructure funds, were basically unheard of 15 years ago.

Third, "just in time" training has had disappointing effects. I have been repeatedly surprised at how little effect targeted information campaigns have. In one study, employees with low savings rates were randomly assigned to an intervention in which they were paid \$50 to read a short document about how their 401(k) plan works, including an individualized calculation of how much money they were losing by not taking full advantage of the match. This intervention had no effect on the employees' average 401(k) savings rates (Choi, Laibson, and Madrian 2008a). The

Enron debacle had no effect on the willingness of newly hired workers at other firms to choose to invest their 401(k) contributions in employer stock (Choi, Laibson, and Madrian 2005). Employer-sponsored financial education seminars have remarkably little effect on 401(k) enrollment (Madrian and Shea 2001b). A new easy-to-read prospectus proposed by the Securities and Exchange Commission—the “summary prospectus”—has no effect on investor choices (Beshears et al. 2009). Finally, making fees overwhelmingly salient does not lead investors to minimize them, even when investors are allocating real money among index funds. In one study, subjects are asked to allocate \$10,000 among four Standard & Poor’s 500 index funds. To assist their decisionmaking, the subjects are told what an index fund is, given a one-page summary sheet that compares the fees of the four index funds, and given the four prospectuses. Only 10 percent of the subjects put all of their money in the low cost index fund (Choi, Laibson, and Madrian 2008b).

Fourth, I worry that the life cycle nature of investing is inherently biased against success. Our formative learning years occur when we have no investable assets, a situation which saps our motivation and diminishes our ability to learn by doing. Moreover, when we have the most assets we are entering a period of diminished cognitive function. For example, the median 25-year-old is around the 75th percentile in adult cognitive analytic function. By contrast, the median 75-year-old is below the 25th percentile in adult cognitive analytic function (Salthouse 2005). Most of this cross-sectional variation is due to age effects and not cohort effects (Salthouse, Schoeder, and Ferrer 2004). Dementia and pre-clinical dementia account for some of this decline, while “normal” aging processes account for most of the rest. Some research has begun to study the market consequences of these changes, arguing that older adults make worse financial choices than middle-aged adults (Agarwal et al. 2007). These life-cycle effects may blunt the efficiency of financial education. Early life education comes at the “wrong” time. Late life education targets a population with declining cognitive function.

Fifth, one of the potential payoffs of financial education might be to teach people that they need to save for retirement. However, this lesson seems to already have been learned. About two-thirds of U.S. households already self-report that they should be saving more for retirement (Choi

et al. 2002). Indeed, the problem with undersaving is not a lack of public awareness. Instead, the problem is a lack of action. Financial education might help on this front, but it might also have little effect to the extent that the principal problem is motivational (for instance, procrastination). More work needs to be done to unravel the multiple forces that contribute to low savings rates in households that self-report that they are not saving enough.

4. Cost Effective Interventions that Improve Retirement Preparation

There are many kinds of inexpensive interventions that generate large increases in savings. I will discuss the role of automaticity, active decisions, and simplified savings mechanisms. These interventions are scalable, highly effective, and nearly cost-free.

The most effective savings interventions all incorporate some element of automaticity. When savings and diversification is automatic (and not compulsory), households have to go out of their way to undersave and under-diversify. Automatic features come in many forms: automatic enrollment, automatic savings rate escalation, automatic diversification, automatic rebalancing, automatic lifecycle reallocation, and automatic annuitization. All of these features are now available in some 401(k) plans. The most successful 401(k) plans make good outcomes easy (meaning automatic) and bad outcomes hard (meaning that these plans require some effort on behalf of the plan participant). For example, automatic enrollment raises participation (at three months of tenure) from around 40 percent to around 90 percent (Madrian and Shea 2001a; Choi et al. 2002, 2004, 2006; Beshears et al. 2008). Automatic escalators have also been highly effective in raising the retirement savings rate (Thaler and Benartzi 2004).

Active decision mechanisms also increase the likelihood of good outcomes. Active decisions are generated by a deadline. Newly hired employees are required to indicate their preference regarding enrollment (for instance, within 30 days of their hire date). In an active decision regime, passivity is not an option (just like the choice of the employer-subsidized health plan). Requiring plan participants to actively decide whether they should be saving or not raises participation rates (at one year of tenure)

from around 40 percent to around 70 percent (Carroll et al. forthcoming).

Simplified enrollment has also been shown to dramatically raise enrollment rates. Reducing the transaction costs of enrollment (so that enrollment takes one minute instead of 15 minutes), raises participation by approximately 20 percentage points (Beshears et al. 2006; Choi, Laibson, and Madrian 2009).

Conclusion: Financial Physicians.

I conclude by identifying parallels between the investment environment and the health care system. Employers offer a small set of carefully vetted health plans to their employees. Employees are required to make an active choice from this set (or opt out of employer-provided health care). Once an employee is in a health plan, physicians make many of the day-to-day health care decisions—for example, which tests should be ordered, what procedures should be done, and which medications should be prescribed. The employee can opt out of the prescribed therapy or get a second opinion. The most significant decisions—for instance, opting for surgery—are made by the patient with the advice and guidance of her physician. Health plans and physicians are regulated and licensed.

This health care system assigns most due diligence and monitoring roles to employers, health plans, and regulators. Day-to-day decision-making is delegated to physicians. We could organize the financial system in a similar way, with social institutions vetting and monitoring financial advisors, who in turn play a role comparable to physicians. Annual financial check-ups would be routine. Portable databases would record each person's financial history and these histories could be shared with advisors at these check-ups.

Large employers and/or asset management firms would select and monitor groups of financial advisors. The integrity and rigor of the selection/monitoring process would be legally enforced. Safe harbor rules would reduce the cost of this oversight role. Small employers could choose advisors and asset managers approved by regulators (to take advantage of scale economies in selection and monitoring). Financial advisors who work outside the boundaries of defined contribution plans would be reg-

istered, licensed fiduciaries who have a high level of training and no conflicts of interest (for example, commission-based compensation would be disallowed).

In such an environment, an investor would only need to know how to work with their financial physician. Investors would not prescribe their own financial medicine. In other words, people with low levels of financial literacy would be OK.

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