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BULLETIN ON AGING AND HEALTH

Financial Literacy, Planning, and Retirement Saving

Individuals are increasingly responsible for making decisions that determine their financial security in retirement. With the shift in private pensions from defined benefit to defined contribution (401(k)-style) plans, most workers must now decide whether and how much to contribute to their pension plan, how to invest fund balances, and how to draw down funds after retirement. Moreover, the array and complexity of financial products offered to individuals for their investments both inside and outside of retirement accounts is increasing.

These trends raise important questions. Do individuals know enough about financial concepts and the specifics of their pension plan and Social Security benefits to make informed retirement savings decisions? Do individuals even plan for retirement? What are the most effective approaches to promote better financial decision-making and enhance retirement security? These questions are the subject of a new working paper by researcher **Annamaria Lusardi**, “**Household Saving Behavior: The Role of Financial Literacy, Information, and Financial Education Programs**” (NBER Working Paper 13824). The paper summarizes previous work with researcher **Olivia Mitchell** and presents new evidence on financial literacy, planning, and saving.

In her earlier work, Lusardi used data from the Health and Retirement Study (HRS) to examine whether people plan for retirement. She found that nearly one-third of workers age 50 and older have not thought at all about retirement, a finding that is confirmed in her work with Olivia Mitchell using more recent waves of the HRS. Lack of

planning is concentrated among groups that are at higher risk for financial insecurity in retirement, including those with low education, African-Americans and Hispanics, and women. Even among those who have tried to plan for retirement, relatively few are able to develop a plan and stick to it—fewer than one in five respondents fall into this category.

A second factor that affects individuals’ ability to save adequately for retirement—and indeed, that may be related to their planning behavior—is their level of information about financial concepts and retirement benefits. Social Security and private pension benefits make up half of retirement wealth for a typical family and an even larger share for low-income families, so understanding these benefits is essential for retirement planning. Previous studies have found that many individuals are poorly informed about these benefits. For example, many workers do not know whether their pension is a defined benefit or defined contribution-style plan or the age at which they are entitled to full Social Security benefits. This lack of information is concentrated among the same groups that fail to plan.

To assess knowledge of financial concepts, Lusardi and Mitchell devised a special module on financial literacy for the 2004 HRS. Findings from this module reveal an “alarmingly low” level of financial literacy among older individuals. Only half of respondents were able to correctly answer two simple questions about interest rates and inflation; this figure falls to one-third when a third question about the relative risk of investing in a single company stock vs. a stock mutual fund is added. In a related study of literacy

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among early baby boomers, only half of respondents could do a simple math calculation (divide \$2 million by five) and fewer than one in five could correctly calculate compound interest over two years. Again, the lack of literacy is concentrated among the groups that fail to plan.

Does lack of financial literacy matter? As the author notes, lack of literacy may be inconsequential if individuals get help in making financial decisions or if financial literacy is unrelated to financial decision-making. To address the latter point, Lusardi and Mitchell examine whether literacy is an important determinant of retirement planning. Even after accounting for demographic characteristics such as education, race, and gender, they find that financial literacy affects retirement planning. To show that this represents a causal effect of literacy on planning and not the reverse (as might be the case if those who want to plan invest in acquiring financial

knowledge), they use data on financial literacy early in life that was obtained from a module they designed for the Rand American Life Panel. They find that those who are financially literate when young are more likely to plan for retirement many years later.

The author also notes that many people are reluctant to rely on advice from financial experts—one study found that only half of workers would take advantage of investment advice offered by companies managing their employer-sponsored pension plan, and many of these would follow the advice only if it was in line with their own ideas. Most individuals rely on family and friends for financial advice. This is particularly true for the less educated, which is a particular concern since their peer group is likely to consist of others with low levels of financial literacy.

Finally, Lusardi examines options for improving financial decision-making and retirement security. One option is financial education, such as retirement seminars offered through the workplace. It is notoriously difficult to assess the value of such semi-

nars, since those who choose to attend may be systematically different from other workers (for example, more interested in planning) and workers at firms that offer seminars may be different from workers at other firms (for example, seminars are often offered at firms where workers do little or no saving). Most of the evidence suggests financial education has, at best, a modest effect on saving.

A second option is automatic enrollment in employer-provided pension plans. This feature has been shown to increase pension participation. Since workers tend to stay with the default participation level and asset allocation, it is important that these be chosen carefully to help workers achieve financial security in retirement. For example, a low contribution rate or very conservative asset allocation may leave workers with insufficient retirement assets.

A third option is to find new tools to simplify saving decisions. One tool that has been proposed and successfully tested by the author is a planning aid that is distributed to new hires during employee orientation. The

aid breaks down the enrollment process into seven easy steps and provides useful information such as the minimum and maximum allowable employee contribution to the pension plan. The author finds that contribution rates to the pension plan tripled after the introduction of the planning aid.

In conclusion, the author notes that financial literacy cannot be taken for granted, particularly among specific groups, such as women and the less educated, and that it may be important to devise programs tailored to the needs of these groups. More broadly, poor financial literacy and a lack of planning may lead individuals to make financial mistakes, such as not saving enough for retirement or investing in assets that are too risky or too conservative. She concludes: “If taxpayers will be asked to support those who have made mistakes, there is a role for regulation and for implementing ‘mandatory’ programs,” such as requiring people to acquire some basic financial knowledge.

Choice and Price Competition in Health Insurance Markets

Choice in health insurance markets is a double-edged sword. On the one hand, economic theory suggests that when there are more competing plans, prices will be lower and the market will be more efficient. Further, if insurers are able to offer different benefit packages, having more plans to choose from may allow consumers to select one that better matches their preferences. On the other hand, as the number of choices increases, consumers may become overwhelmed and have more difficulty finding the lowest-priced plan or the one that best suits their needs. Moreover, the existence of more plans may exacerbate problems that result from buyers having private information about their health status—for example, healthier buyers may select a high-deductible plan to avoid being pooled with expensive sickly patients, even though they would prefer to have more risk protection.

The question of how choice affects health insurance markets is very relevant for public policy. For example, under the recently-enacted Medicare Part D program, most seniors can choose from among dozens of prescription drug plans, and it has not yet been

established whether this is a positive or negative aspect of the program.

In “**Choice, Price Competition and Complexity in Markets for Health Insurance**,” (NBER Working Paper 13817) researchers **Richard Frank** and **Karine Lamiraud** draw insights about the value of choice in health insurance markets from the case of Switzerland. The Swiss case offers a particularly good opportunity to study the effect of choice on price competition, since the other changes that can occur as choices increase—namely, an increase in the type of plans available and in the problems resulting from information asymmetries—are less relevant due to the nature of the health insurance market in Switzerland.

Health insurance in Switzerland is organized at the canton (region) level. Insurers offer a standardized, comprehensive benefits package that includes inpatient, outpatient, and long-term care. Each insurer sets its own premiums but must charge the same amount to all individuals of the same age group living in the same canton and cannot turn away prospective enrollees. All individuals must purchase health insurance and have 30 or

more plans to choose from during the sample period examined by the authors. Individuals can switch plans easily during the annual open enrollment period; price information is readily available and switching will generally not affect an individual’s access to particular doctors.

Given the nature of the Swiss health insurance market, insurers would be expected to compete actively on price. In fact, however, the market is characterized by large and persistent price differences across plans. In 2004, switching from an average-priced plan to the lowest price plan would result in a premium savings of nearly 20 percent. In one canton, the difference between the highest and lowest priced plans was nearly 80 percent of the average premium. Switching rates are also very low, about 3 percent per year.

What can explain these large premium differentials and low switching rates? Standard economic theories would include search and switching costs for buyers or price discrimination by sellers, but these explanations seem less powerful in the Swiss context. A possibly more plausible explanation draws on research in behavioral economics. That

research has shown that cognitive overload and fear of making incorrect decisions often arise when decisions are complex and have high stakes. These factors can lead to poor decision making or attempts to avoid making a decision by opting for the status quo. Past research has also shown that individuals tend to exaggerate the value of items they own relative to what they would value the same item if they did not own it. The authors hypothesize that consumers may tend to underestimate the gains and exaggerate the losses from changing health insurance plans.

The authors conduct an empirical analysis of plan switching to assess the role of prices, information overload, and status quo bias in the health insurance decision-making of Swiss consumers. They use both a household survey with information on plan switching during 1997–2000 and an insurer database with information on health plans.

The authors find that switching rates are consistently lower when individuals have more plans to choose from. Interestingly, an increase in smaller “fringe” firms inhib-

its switching more than does an increase in larger firms. Having more choices makes consumers less likely to switch even when they expressed dissatisfaction with their current plan. These findings are all consistent with a decision overload theory. The authors also find that switching rates increase as the difference between the price of one’s own plan and the other options increases, suggesting that switching behavior is responsive to price as standard economic models would suggest.

The authors show that switchers lower their premiums by an average of 16 percent relative to those who stayed in the same plan. This suggests that many consumers “leave money on the table” by not switching plans.

What is driving households’ decisions, if not price? Quality is another possibility, although the regulation in the Swiss system serves to minimize quality differences across plans. One way in which firms do differ is in their reliability, as some insurers have left the market in recent years. Yet the authors find that the size of the plan’s financial reserves does not have a significant effect on switch-

ing. Another major factor seems to be the desire to go with a known quantity, as 40 percent of households say they base their decision on parents’ and friends’ choices or on tradition and non-switchers are much more likely to be in one of the large national plans. These results may suggest a status quo bias.

The authors conclude “one implication of these results is that expanding choice to very large numbers is likely to reduce the effectiveness of consumer decision-making which may in turn result in larger mark-ups by health insurers. At a moment in history when elderly Americans are facing large numbers of choices in private health plans and prescription drug plans our findings may offer some cautions regarding the need for decision support and mechanisms that simplify such health insurance choices.”

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Do Markets Respond to Quality Information? Evidence from Fertility Clinics

The U.S. spends far more on health care than other developed countries—16 percent of GDP in 2007—yet health outcomes in the U.S. are no better than those in other countries. There is increasing interest among U.S. policy makers and health care researchers in finding methods to improve the quality and value of health care services. One means of improving quality and value is to structure payments to hospitals and doctors so as to reward them financially for providing better care. A second option is to simply make quality information available to consumers. If individuals or employers who buy health insurance on their behalf “vote with their feet” and select providers with higher quality ratings, it may be possible to achieve quality improvements without changing the structure of payments to providers.

Do consumers pay attention to quality ratings when selecting health care providers? This is the question examined by researchers **M. Kate Bundorf, Natalie Chun, Gopi Shah Goda, and Daniel Kessler** in their new study “**Do Markets Respond to Quality**

Information? The Case of Fertility Clinics,” (NBER Working Paper 13888). Past evidence on this question is mixed, with some studies finding that more highly rated providers have higher market shares and others finding a more marginal impact of quality information on markets for health services. The authors present new evidence on this question in the context of the market for assisted reproductive therapy (ART) services.

The authors examine the effect of a federal law that requires the Centers for Disease Control (CDC) to collect and disseminate information on the success rates of all fertility clinics in the U.S. The key quality measure is the percent of treatment cycles that resulted in a live birth (“birth rate”). In the data reported publicly, this measure is lagged by three years—so for example, in 2008 the CDC reports the outcome of cycles started in 2005. The authors have data on the 3-year birth rate from 1995 to 2003, although it is available publicly starting only in 1998. Their basic empirical strategy is to compare the effect of this measure on fertility clinics’

market share before and after the start of public reporting. If consumers respond to quality information, the 3-year birth rate will have a stronger positive effect on market share after the start of public reporting.

One important feature of the authors’ data is that they also have data on the birth rate lagged by 1 year, a measure that is not made public by the CDC. This measure is likely to be correlated with quality information the consumer has that is unobserved by the researcher—for example, a patient’s doctor may tell her that a highly regarded physician has recently joined a particular clinic and the clinic had high rates of live births as a result. With both the 1-year and 3-year birth rates included in the model, the authors can be fairly certain that any effect of the 3-year birth rate on market share is a causal effect of the reporting of quality information, since there is no other reason for the less current information to affect market share. The ability to control for unobserved quality information is an important innovation of this study relative to the previous literature.

Turning to the results, the authors find that the 3-year birth rate has a larger positive effect on market share after the adoption of the report card. The difference is statistically significant and economically important—a clinic that improves its birth rate from the 25th percentile to the 75th percentile would experience a 13 percent greater increase in its market share after public reporting vs. before. The 1-year birth rate had a similar positive effect on market share in both periods, indicating that consumers have other sources of quality information that are correlated with the 1-year birth rate that they use when choosing among clinics.

The CDC reports include data on the age mix of patients at each fertility clinic. Consumers of fertility services would almost certainly be aware that success rates fall dramatically with age. When the authors include this measure in their models, they find that clinics that treat a disproportionate number of young patients relative to their competitors have lower market shares after public reporting relative to before. This suggests that pub-

lic reporting allowed consumers to adjust for patient characteristics when evaluating clinic quality.

As only some states require insurers to cover ART services, the authors next look at whether the effect of the 3-year birth rate on market share in the post-1998 period is stronger in those states. They find that it is, and suggest several possible explanations for this finding. Insurers may steer patients towards clinics with higher success rates, as it is in their interest to do so. Alternatively, patients who would not be able to afford ART services in the absence of insurance coverage may be less well informed through informal channels or more responsive to quality information than other patients. The authors find their results to be more consistent with the latter explanations and note that this may have important policy implications: “if report cards are more important to consumers pulled in to health services markets by mandates, then current health policy reforms that seek to expand insurance coverage should also be sure to provide an appropriate source of information for

the newly insured.”

The authors’ results suggest a stronger effect of quality report cards on market share than had been found in previous studies. The authors suggest several possible reasons for the difference. First, in the fertility context quality measures may be more informative or easier to use. Second, consumers may have less access to other quality information here than in other contexts. Third, public reporting was mandatory and therefore available for all providers. Finally, consumers seeking ART services tend to be younger, more educated, and more affluent, and thus may be better able to make use of quality information.

The authors conclude “overall, our findings indicate that report cards in this market have the potential to influence provider behavior.” They note that although birth rates have improved during the period of their study, it is not possible to definitively attribute this to the effect of quality reporting, and suggest that further study is necessary to establish the effect of report cards on quality.

NBER Profile: *Annamaria Lusardi*

Annamaria Lusardi is a Research Associate of the NBER’s program in Aging.

Lusardi is Professor of Economics at Dartmouth College. She has taught at Princeton University, the University of Chicago Public Policy School, and the University of Chicago Graduate School of Business and was a visiting scholar at the Harvard Business School from January to June 2008.

She received teaching awards from both Princeton and the University of Chicago.

She is a Fellow of the TIAA-CREF Institute, a member of the Advisory Board of the Pension Research Council at the Wharton School, a Research Fellow at Nesper (the Netherlands), and a member of the Scientific Committee of the Center for Research on Pensions and Welfare Policies (Italy).

Professor Lusardi has won numerous research awards, including a research fellowship from the Irving B. Harris Graduate School of Public Policy Studies at the University of Chicago and a fac-

ulty fellowship from the John M. Olin Foundation. She is the recipient of the Fidelity Pyramid Prize, awarded to authors of published applied research that best helps address the goal of improving lifelong financial well-being for Americans. She has advised the U.S. Treasury Department, the U.S. Social Security Administration, the Dutch Central Bank, and the Dartmouth Hitchcock Medical Center. She is currently designing a survey on financial capability for the U.S. Treasury Department.

Professor Lusardi holds a Ph.D. in Economics from Princeton University and a B.A. in Economics from Bocconi University in Milan, Italy.

Professor Lusardi’s current research is primarily focused on financial literacy and retirement savings. She has examined the role of financial literacy and planning in the retirement security of baby boomers and how to increase the effectiveness of financial education and saving programs.

She enjoys reading, running, going to the opera, and traveling to Italy as often as possible.



Abstracts of Selected Recent NBER Working Papers

13775

Yu-Chu Shen, Vivian Wu, Glenn Melnick
The Changing Effect of HMO Market Structure: An Analysis of Penetration, Concentration, and Ownership Between 1994–2005

We analyze the role of three aspects of HMO market structure: HMO penetration, HMO plan concentration, and HMO for-profit share on explaining hospital cost and revenue growth during the HMO expansion period (1994–1999) and backlash period (2004–2005). We find that HMO penetration effects differ over time: a 10 percentage point increase in HMO enrollment leads to 2.5 percent reduction in cost and revenues in the expansion period but only 0.4–1 percent reduction in the backlash period. Furthermore, this HMO backlash effect can be attributed to HMO dis-enrollment as well as the changing nature of HMO product. We find that revenue increases at a slower rate (by about 5 percent) in markets with relatively concentrated HMO markets power and more competitive hospital markets. Finally, increased for-profit HMO presence is associated with smaller cost and revenue growth, and the effect differs between low and high penetration markets.

13785

Radha Iyengar, Lindsay Sabik, Cindy Southworth, Sarah Tucker, Cynthia Fraser
50,000 People a Day: The Use of Federally Funded Services for Intimate Partner Violence

Intimate partner violence is a serious and preventable health problem affecting more than 30 million Americans each year. We use an innovative new research design to describe the frequency and correlates of emergency and crisis intervention services provided by domestic violence programs using safe, non-invasive collection methods. During the 24-hour survey period, 48,350 individuals used the services of primary purpose domestic violence programs, corre-

sponding to a population rate of 16 per 100,000 people. Of these individuals, 14,518 required emergency shelter, 7,989 required transitional housing and 25,843 were provided with non-residential services. Seven times more individuals are served by domestic violence programs than are served in emergency rooms in the US on an average day. The results show unmet demand for services provided by domestic violence programs with 10 percent victims (5,183 requests) seeking services at a domestic violence provider unable to be served daily due to resource constraints. Although DV costs \$5.8 billion annually, 70% of which is spent on medical costs, the government only spends \$126 million annually. Thus greater funding of domestic violence programs is likely to be a cost-effective investment.

13789

Erik Hurst
The Retirement of a Consumption Puzzle

This paper summarizes five facts that have emerged from the recent literature on consumption behavior during retirement. Collectively, the recent literature has shown that there is no puzzle with respect to the spending patterns of most households as they transition into retirement. In particular, the literature has shown that there is substantial heterogeneity in spending changes at retirement across consumption categories. The declines in spending during retirement for the average household are limited to the categories of food and work related expenses. Spending in nearly all other categories of non-durable expenditure remains constant or increases. Moreover, even though food spending declines during retirement, actual food intake remains constant. The literature also shows that there is substantial heterogeneity across households in the change in expenditure associated with retirement. Much of this heterogeneity, however, can be explained by households involuntarily retiring due to deteriorating health. Overall, the literature shows that the standard model of lifecycle consump-

tion augmented with home production and uncertain health shocks does well in explaining the consumption patterns of most households as they transition into retirement.

13875

Cathy Bradley, David Neumark, Lisa Shickle, Nicholas Farrell
Differences in Breast Cancer Diagnosis and Treatment: Experiences of Insured and Uninsured Patients in a Safety Net Setting

To explore how well the safety net performs at eliminating differences in diagnosis and treatment of insured and uninsured women with breast cancer, we compared insured and uninsured women treated in a safety net setting. Controlling for socioeconomic characteristics, uninsured women are more likely to be diagnosed with advanced disease, requiring more extensive treatment relative to insured women, and also experience delays in initiating and completing treatment. The findings suggest that, despite the safety net system, uninsured women with breast cancer are likely to require more costly treatment and to have worse outcomes, relative to insured women with breast cancer.

13881

Sherry Glied
Health Care Financing, Efficiency, and Equity

This paper examines the efficiency and equity implications of alternative health care system financing strategies. Using data across the OECD, I find that almost all financing choices are compatible with efficiency in the delivery of health care, and that there has been no consistent and systematic relationship between financing and cost containment. Using data on expenditures and life expectancy by income quintile from the Canadian health care system, I find that universal, publicly-funded health insurance is modestly redistributive. Putting \$1 of tax funds into the

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public health insurance system effectively channels between \$0.23 and \$0.26 toward the lowest income quintile people, and about \$0.50 to the bottom two income quintiles. Finally, a review of the literature across the OECD suggests that the progressivity of financing of the health insurance system has limited implications for overall income inequality, particularly over time.

13917

Mark Duggan, Fiona Scott Morton

The Effect of Medicare Part D on Pharmaceutical Prices and Utilization

On January 1, 2006, the federal government began providing insurance coverage for Medicare recipients' prescription drug expenditures through a new program known as Medicare Part D. Rather than setting pharmaceutical prices itself, the government contracted with private insurance plans to provide this coverage. Enrollment in Part D was voluntary, with each Medicare recipient allowed to choose from one of the private insurers with a contract to offer coverage in her geographic region. This paper evaluates the effect of this program on the price and utilization of pharmaceutical treatments. Theoretically, it is ambiguous whether the expansion in insurance coverage would increase or reduce pharmaceutical prices. Insurance-induced reductions in demand elasticities would predict an increase in pharmaceutical firms' optimal prices. However, Part D plans could potentially negotiate price discounts through their ability to influence the market share of specific treatments. Using data on product-specific prices and quantities sold in each year in the U.S., our findings indicate that Part D substantially lowered the average price and increased the total utilization of prescription drugs by Medicare recipients. Our results further suggest that the magnitude of these

average effects varies across drugs as predicted by economic theory.

13979

John Geanakoplos, Stephen Zeldes

Reforming Social Security with Progressive Personal Accounts

The heated debate about how to reform Social Security has come to a standstill because the view of most Democrats (that Social Security must be a defined benefits plan similar in spirit to the current system) seems irreconcilable with the proposals supported by many Republicans (to create a defined contribution system of personal accounts holding marketed assets). We describe a system of "progressive personal accounts" that preserves the core goals of both parties, and that is self-balancing on an ongoing basis. Progressive personal accounts have two critical features: (1) accruals into the personal accounts would be exclusively in a new kind of derivative security (which we call a PAAW for Personal Annuitized Average Wage security) that pays its owner one inflation-corrected dollar during every year of life after his statutory retirement date, multiplied by the economy wide average wage at the retirement date and (2) households would buy their new PAAWs each year with their social security contributions, augmented or reduced by a government match that would add to contributions from households with low lifetime incomes by taking from households with high lifetime incomes. PAAWs define benefits and achieve risk sharing across generations, as Democrats would like, yet can be held in personal accounts with market valuations, as Republicans propose.

13987

Janet Currie

Healthy, Wealthy, and Wise: Socioeconomic Status, Poor Health in Childhood, and Human Capital Development

There are many possible pathways between parental education, income, and health, and between child health and education, but only some of them have been explored in the literature. This essay focuses on links between parental socioeconomic status (as measured by education, income, occupation, or in some cases area of residence) and child health, and between child health and adult education or income. Specifically, I ask two questions: What is the evidence regarding whether parental socioeconomic status affects child health? And, what is the evidence relating child health to future educational and labor market outcomes? I show that there is now strong evidence of both links, suggesting that health could play a role in the intergenerational transmission of economic status.

14010

Tomas Phillipson, Richard Posner

Is the Obesity Epidemic a Public Health Problem? A Decade of Research on the Economics of Obesity

The world-wide and ongoing rise in obesity has generated enormous popular interest and policy concern in developing countries, where it is rapidly becoming the major public health problem facing such nations. As a consequence, there has been a rapidly growing field of economic analysis of the causes and consequences of this phenomenon. This paper discusses some of the central themes of this decade long research program, aiming at synthesizing the different strands of the literature, and to point to future research that seems particularly productive.

NBER

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