

## Director's Corner

Interest in preserving the Social Security program has focused in recent months on the question of whether or not to initiate the use of private investment accounts, which supporters argue could strengthen Social Security by allowing investors to earn a higher rate of return in the stock market than in the current system. President Bush has named a Presidential Commission to investigate this question. While there is some information on the feasibility and dynamics of implementing a system of private accounts within the Social Security system, much remains to be learned. With that in mind, the Social Security Administration issued a call for proposals to its Retirement Research Consortium to build our base of information about private accounts. Various proposals have been submitted and are under consideration

There are many important issues about the development of private accounts that need to be considered. One aspect is addressed in the current Issue in Brief contained in this newsletter. In general, it is important to focus on what individuals stand to gain and to lose if such a system were implemented. Now more than ever, our mandate to generate policy-driven research and to disseminate findings is paramount. Although the Presidential Commission's report to the President is due this fall, debate will not end there. Building a solid research base for policy-making will continue to be a sound investment in the nation's future.

Acting Director, MRRC

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## Social Security Simulator now Available On-line

MRRC researchers, Mike Anderson, Shripad Tuljapurkar, and Ron Lee have developed a new program called S4. S4, short for Stochastic Social Security Simulator, is an online simulation of the Social Security trust fund, which allows the user to adjust tax rates, retirement ages, equities investment and other parameters to look at the effects of these changes on the trust fund. The March issue of the MRRC newsletter featured a study by these researchers that illustrates how this program can be used. These files can be accessed through the Data link on the MRRC website at <http://www.mrrc.isr.umich.edu>

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*Issue in Brief*

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## Cognition and Wealth: The Importance of Probabilistic Thinking

by Lee A. Lillard and Robert J. Willis

### Executive Summary

In recent years there has been an increase in private and company pension plans that allow workers to make contributions to their own retirement accounts and to make their own decisions about how much they contribute, into what type of account they contribute, and about when and how much is paid out to them. It has been argued that at least some portion of Social Security funds should be managed as voluntary private accounts of this sort. Whether this policy move would be harmful or beneficial depends in part on how well individuals and households would manage these accounts. Critics are concerned that many people, especially those with lower income to begin with, will not make investment decisions that will give them the greatest return on their money. This, they argue, will widen the already large inequalities in wealth among older Americans. Research that addresses this question is needed for informed retirement policy.

In this *Issue in Brief*, we summarize work that investigates one aspect of financial decision-making: the ability to make precise judgments, or guesses, about the likely occurrence of future events, or as we refer to it, probabilistic thinking. We use data from the Health and Retirement Study (HRS) to create a measure of this kind of thinking and then relate it to household choices about the riskiness of investments, and hence the rate of growth in the value of those assets. In short, we find that a large proportion of older Americans tend to make imprecise probability judgments and that this is related to holding a financial portfolio containing less risky assets with lower rates of return. This is important information for policymakers to consider when weighing the costs and benefits of individual retirement accounts in the Social Security system.

### The Data

The Health and Retirement Study (HRS) is a longitudinal, nationally representative study of older Americans. The survey began in 1992 with an initial cohort of 12,652 individuals from 7,607 households, with at least one household member born from 1931 to 1941. In this study, we use questions asked in the 1998 wave that surveyed over 22,000 Americans over the age of 50. We construct an index of probabilistic thinking using questions that ask the respondent about topics ranging from personal life expectancy and date of retirement to beliefs about the rate of inflation and future Social Security policy. For each question, the respondent is asked how likely they think various events might be. The respondent is told to give a number between 0 and 100 where “0” means “no chance at all” and “100” means the event is absolutely sure to happen. The HRS also contains extensive information about respondents’ financial assets, which we use in our analyses.

### The Logic of our Argument

In general, the probability questions give good information. For example, answers to questions about life expectancy match life table probabilities surprisingly well. However, there are also a large proportion of respondents who typically answer ‘0’ or ‘50’ or ‘100.’ We call these focal answers and assume that they reflect a large degree of uncertainty about the true probability of the occurrence of an event. By contrast

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## News Notes

### **3rd Annual Retirement Research Consortium Conference held in Washington, DC**

The third annual conference of the Social Security Retirement Research Consortium was held at the National Press Club in Washington, D.C. on May 17 and 18, 2001. The two-day conference, entitled "Making Hard Choices About Retirement," was planned and arranged this year by the Center for Retirement Research at Boston College (CRR) in conjunction with the Michigan Retirement Research Center (MRRC) and the Social Security Administration (SSA). With over 200 researchers, policy makers, and federal officials in attendance, researchers from each of the two consortium centers presented papers on current projects, all of which are funded by SSA. The topics covered in the seven paper sessions included the extent to which Americans are prepared for retirement, how well people make decision about their retirement income, how pension provisions affect retirement decisions, the extent of Social Security redistribution to low-income workers, retirement system cost and implications for reform, how older women do in retirement as a cross-national comparison, and how workers' perceptions of disability insurance affects retirement decisions. The final session of the second day featured six Sandell Awardees who presented their research findings.

Introductory remarks were made by Alicia Munnell, Director of the CRR, Robert Willis, Member of the Executive Committee for the MRRC, and Larry G. Massanari, Acting Commissioner, Social Security Administration. The Key Note speaker was Bush Administration Chief Economic Advisor Larry Lindsey who spoke on President Bush's vision of the U.S. retirement system. Lindsey's talk was entitled "Saving Social Security" and outlined President Bush's six principles for Social Security reform. Papers presented at the conference will be available on the MRRC website in the near future.

*<http://www.mrrc.isr.umich.edu>*

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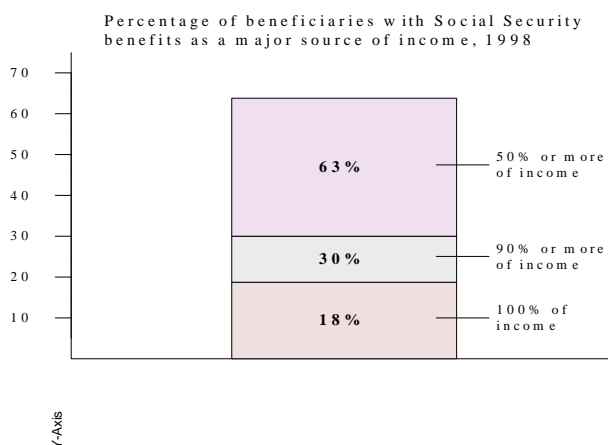
### **Dr. Olivia Mitchell appointed to Presidential Commission to Strengthen Social Security**

MRRC researcher and Executive Committee member Dr. Olivia Mitchell was appointed to the Presidential Commission to Strengthen Social Security. Dr. Mitchell is the Executive Director of the Pension Research Council of the Wharton School of the University of Pennsylvania where she is also International Foundation of Employee Benefit Plans Professor of Insurance and Risk Management. She is a winner of the TIAA-CREF/Paul A. Samuelson Award for Outstanding Scholarly Writings on Lifelong Financial Security. Her current research includes the economics of annuities; global social security and pension reform; retirement, wealth and health; public and private pensions.

## ***F**or **Y**our **I**nformation*

### **The Importance of Social Security Benefits**

In 1998, 90% of people aged 65 or older received OASDI benefits. These benefits were the major source of income for 63% of these people. For these 63%, OASDI benefits provided 50% or more of their total income. For 18% of those receiving benefits it was the only source of income.



Source: *Fast Facts and Figures About Social Security*, a publication of the Social Security Administration Office of Policy, Office of Research, Evaluation, and Statistics. August 2000. Available on line at [http://www.ssa.gov/statistics/fast\\_facts/index.html](http://www.ssa.gov/statistics/fast_facts/index.html)

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when respondents say that an event has, for example, a 30 percent or a 70 percent chance of happening, we assume that reflects a greater certainty about the true probability. Thus, we propose that individuals who make more precise guesses are more confident about the accuracy of their guess.

An important aspect of our argument is that people don't make these guesses in a vacuum but based on their own experience. Although we do not explore it fully in this paper, it may be that people can become more competent probabilistic thinkers through experience. The precision of a person's beliefs may depend on his or her education, cognitive ability and experience in either making or observing decisions.

The confidence that is indicated by precise guesses, we propose, leads people to be willing to take greater risks, in this case, where financial matters are concerned. On the other hand, given a lot of uncertainty, people will tend to make a more conservative decision--one that they think will give them a more certain outcome. In our analyses, we examine the relationship between the precision of guesses (probabilistic thinking) and two financial outcomes: the fraction of risky assets (ones which tend to have a higher rate of growth) and the actual growth rate of those assets held by a household.

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### Summary of Major Findings

- Sixty percent of all answers to the probability questions were imprecise answers (respondents answered that an event had a 0, 50 or 100 percent chance of happening).
- Probabilistic thinking is strongly related to age and education such that older people and less educated people tend to be less competent probabilistic thinkers, that is, they are more likely to give imprecise answers (0, 50, or 100 percent) to the probability questions.
- Households with people who are very likely to give precise answers--are very good probabilistic thinkers--have a significantly larger proportion of risky assets in their financial portfolio. This effect takes into account the effect of education and age as well as other demographic and financial factors.
- When we examine the effect of probabilistic thinking on the growth rate of those assets, we find that households with people who are good probabilistic thinkers experienced a significant and very large rate of growth of assets from 1992 to 1998 compared to households where individuals tended to be less precise, or poorer probabilistic thinkers. In this model, the control for education has a large effect and cuts the relationship between probabilistic thinking and asset growth in half. Further investigation of this finding suggests that education is likely related to some other measure of cognitive ability that we were not able to measure.

### Conclusion

This study was motivated by the question of how well older Americans will be able to take advantage of individual private retirement investment accounts—programs that expand the scope of individual choice in decision-making. We have focused our attention on one aspect of financial decision-making—probabilistic thinking—that is important for financial decision-making. We believe that this paper provides clear evidence that there is a wide range of competence in probabilistic thinking in the older population and that more precise beliefs lead households to be willing to take more risks and to enjoy higher growth in wealth. An important caveat, however, is that this study is the first of its kind. Furthermore, we believe it is important for future work to explore the extent to which people can reduce uncertainty, become more confident and precise thinkers, through experience with financial management, and hence become better able to manage their finances in ways that will be most beneficial to them.

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## Lee Lillard's PSID Data Files now Available for Public Use

Lee A. Lillard, director of the Michigan Retirement Research Center (MRRC) at the University of Michigan, senior research scientist at its Institute for Social Research (ISR), and professor of economics, developed a unique method for analyzing the rich compendium of data collected by the Panel Study of Income Dynamics (PSID) since its inception in 1968. Dr. Lillard died in December 2000, and his colleagues at PSID decided to provide the fruits of his work to the research community so others might benefit from an exploration of his techniques and methodologies for analyzing data. Dr. Lillard created what he called "clean processes" to investigate a number of dynamic behaviors that are measured longitudinally in PSID, such as employment, marriage-divorce, and fertility. He and his programmers and research assistants put these processes into a consistent framework, and made decisions about how to resolve inconsistencies, missing items, etc. Data from the files can be entered, as appropriate, in dynamic econometric models of related and mutually causal processes: for instance, the relationships among marriage, fertility, and female labor supply. Thus, researchers can study various combinations of these behaviors without having to go through complex file creation for each project.



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