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TIAA Institute Fellows Symposium

Behavioral Finance and Saving: Determinants of Retirement Readiness

A research forum co-hosted with the Pension Research Council

Research Study Executive Summaries

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June 18, 2017
TIAA Institute Fellows Symposium

Dear Colleagues:

Welcome to **Behavioral Finance and Saving: Determinants of Retirement Readiness**, a TIAA Institute Fellows Symposium co-hosted with the Wharton School's Pension Research Council who have joined forces to conduct research on key issues in retirement security.

During the course of the day, we will hear keynote addresses from thought leaders in retirement planning and research presentations on the following studies:

- *Interactions between Episodic Memory and Intertemporal Choices in Older Adults*
  Joseph W. Kable, Karolina Lempert, David Wolk
- *Household Portfolio Underdiversification and Probability Weighting: Evidence from the Field*
  Stephen Dimmock, Roy Kouwenberg, Olivia S. Mitchell, Kim Peijnenburg
- *Behavioral Factors and Long-run Financial Well-being*
  Victor Stango and Jonathan Zinman
- *Optimal Illiquidity*
  John Beshears, James Choi, Christopher Clayton, Christopher Harris, David Laibson, Brigitte Madrian
- *Are the Elderly More Likely to Receive Conflicted Financial Advice? Evidence from Client Surveys*
  Jonathan Reuter and Michael Finke
- *Debt and Financial Vulnerability on the Verge of Retirement*
  Annamaria Lusardi, Olivia S. Mitchell, and Noemi Oggero

The TIAA Institute and PRC are proud to support this new research on topics of concern to plan sponsors, academic leaders and policymakers. We hope you glean new insights from these studies and look forward to hearing your thoughts on the findings and implications.

Sincerely,

Dave	*Olivia*
David P. Richardson Managing Director of Research TIAA Institute	Olivia S. Mitchell Executive Director Pension Research Council

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Interactions between Episodic Memory and Intertemporal Choices in Older Adults

Joseph W. Kable, Karolina M. Lempert, and David A. Wolk

As older adults enter retirement, they face many choices involving tradeoffs between smaller payouts available immediately versus larger total expected payouts in the future. When making such intertemporal choices, people generally prefer rewards sooner rather than later, a tendency called temporal discounting. Intertemporal choice research in older adults has yielded inconsistent results, suggesting that variability in cognitive decline among older adults may contribute to variability in temporal discounting. There is evidence that the episodic memory system plays a role in reducing temporal discounting. Given that episodic memory declines in older adults, this project aims to determine whether neuroanatomical and behavioral correlates of episodic memory are associated with temporal discounting during healthy aging, and to test whether positive autobiographical memory retrieval prior to intertemporal choices reduces temporal discounting in older adults.

To date, we have investigated whether positive memory retrieval decreases temporal discounting in cognitively normal older adults and found that there was not a significant effect. This finding suggests that episodic memory decline in older adults might limit the utility of episodic memory-based interventions to change choice. Interestingly, individual differences in perspective-taking ability moderated the effect of positive memory recall on choice, wherein individuals who reported being more willing to take the perspective of others made more patient choices after recalling positive memories. This adds to a growing literature on the role of perspective-taking in intertemporal choice; perhaps the most effective manipulations involve taking the perspective of the past or future self. This result, though preliminary, opens up the opportunity to explore perspective-taking-based manipulations of intertemporal choice in older adults. In follow-on work, we will further investigate the association between neuroanatomical and behavioral correlates of episodic memory and temporal discounting in healthy aging.

Key findings:

- Episodic memory decline in older adults might limit the utility of episodic memory-based interventions to change choice.
- Individual differences in perspective-taking ability shape the effect of positive memory recall on choice, such that people who report being more willing to take the perspective of others make more patient choices after recalling positive memories.
- Though preliminary, our work opens up the opportunity to explore perspective-taking-based manipulations of intertemporal choice in older adults.

Household Portfolio Underdiversification and Probability Weighting: Evidence from the Field

Stephen G. Dimmock, Roy Kouwenberg, Olivia S. Mitchell, and Kim Peijnenburg

Conventional economic models assume that people confronted with risky choices maximize expected utility, yet in the real world, they often make predictable errors when evaluating risky outcomes. Specifically, people often overweight small probabilities but underweight large probabilities, a phenomenon called "probability weighting." In a laboratory setting, analysts have shown that probability weighting does shape outcomes, but little is known about this phenomenon outside the laboratory. Our research measures how people probability weight in a nationally representative sample of the U.S. population, and then we test how this behavioral bias affects their actual investment decisions.

We measure probability weighting using custom-designed questions based on incentivized lotteries. Consistent with laboratory studies, we find that a majority of people overweight small probabilities and underweight higher probabilities. This phenomenon is called I*nverse-S* weighting. There are also substantial differences across individuals in the degree to which they weight. Next, we test the relationship between probability weighting and household investment choices. As theory predicts, our *Inverse-S* measure is positively associated both with non-participation in equity markets and with individual stock ownership, but negatively associated with mutual fund ownership. Conditional on stock ownership, *Inverse-S* is positively associated with portfolio under-diversification.

Our evidence that probability weighting strongly affects investment behaviors has implications for how financial service providers should frame investment decisions for savers and retirees, as well as for the design of financial products. For instance, portfolio under-diversification may appear attractive to some, despite offering poor risk-adjusted returns, as we find that probability weighting likely reflects household preferences rather than a misunderstanding of actual risks. This will make it difficult for advisors to stimulate portfolio diversification unless they can directly target these preferences. As an alternative, financial products combining safe (capital guaranteed) and risky (call options on the stock market) components are attractive for investors who overweight small probabilities, and provide an opportunity for financial institutions to design such products.

Key findings:

- People often make predictable errors when evaluating risky outcomes, underweighting large probabilities but overweighting small probabilities. This phenomenon is called "probability weighting."
- Our research shows that most people overweight small probabilities and underweight higher probabilities, though there are substantial differences in the degree to which this happens.
- People who probability weight fail to participate in the stock market, but if they do, they fail to diversify.
- Financial advisors would do well to be aware of how probability weighting discourages diversification of investment portfolios.

Behavioral Factors and Long-run Financial Well-being

Victor Stango and Jonathan Zinman

Understanding the prevalence and predictive power of behavioral factors (B-factors)—deviations from classical economic preferences, beliefs, and decision rules—in savings and retirement decisions is critical to understanding what products and policies will best foster long-term financial well-being. The authors implement low-cost techniques for eliciting a rich suite of individual-level behavioral factors in a large, representative U.S. survey. The centerpiece of the research agenda is to develop, administer and analyze a rich and unique survey instrument run through the RAND American Life Panel, a representative sample of U.S. households. These new and rich data cast light on two long-standing questions:

- Which behavioral factors are most prevalent among US individuals/households?
- Do behavioral factors meaningfully relate to financial well-being and retirement preparedness?

The authors find that most B-factors are indeed quite prevalent, with some deviation from the "classical norm" exhibited by at least 50% of the sample for 11 of the 16 B-factors we measure. Their main takeaways are that B-factors are widespread enough in the general population to motivate continued scrutiny, and that our streamlined methods are useful for eliciting them. They also find that cross-sectional heterogeneity in B-factors does in fact correlate with outcomes, and that generally speaking, "being behavioral" reduces individual's self-assessed financial well-being, as well as their "hard" measures of retirement preparedness such as wealth and stock market participation. The main takeaway is that B-factors do have economically substantial links to long-run financial well-being.

Key findings:

- The authors explore the prevalence and predictive power of behavioral factors driving in savings and retirement outcomes, which they term "B-factors."
- Based on a nationally-representative survey of Americans, they find that half of their respondents exhibit 11 of the 16 B-factors examined.
- They conclude that behavioral rather than what economists have called strictly rational factors drive peoples' self-assessed wellbeing as well as more objective measures of retirement preparedness.

Optimal Illiquidity

John Beshears, James J. Choi, Christopher Clayton, Christopher Harris, David Laibson, and Brigitte Madrian

This research seeks to compute the socially optimal level of illiquidity in a stylized retirement savings system. They pose the planner's problem in the context of an economy where time-inconsistent households face a tradeoff between commitment and flexibility. The assume that the planner can set up multiple accounts for households: a perfectly liquid account and partially illiquid retirement savings accounts with early withdrawal penalties. Revenue from penalties is collected by the government and redistributed through the tax system.

The authors investigate for the socially optimal values of these penalties, and the socially optimal allocations to these accounts. When agents have heterogeneous present-biased preferences, social optimality is achieved with three accounts:

- liquid account,
- account with an early withdrawal penalty ≃100%, and
- an account with an early withdrawal penalty of ≃ 10%.

With heterogeneous preferences, the socially optimal retirement savings system in our stylized model looks surprisingly like the existing U.S. system which offers savers liquid accounts, an illiquid Social Security account (and defined benefit pensions), and a 401(k)/IRA system having a 10% early withdrawal penalty. The socially optimal allocations to these accounts and the predicted equilibrium flows of early withdrawals— “leakage”— also match the U.S. system.

Key findings:

- When consumers are present biased, they may naively fail to save enough for retirement.
- A planner who understands this problem can design a retirement system with liquid and partially-illiquid retirement accounts that will benefit consumers overall.
- Moreover, having a relatively low penalty for early withdrawals can also be optimal.

Are the Elderly More Likely to Receive Conflicted Financial Advice? Evidence from Client Surveys

Jonathan Reuter and Michael Finke

We use high-quality survey data collected from the clients of financial advisers to ask whether older investors in the U.S. are more likely to receive and accept conflicted financial advice. We are motivated by recent findings that actual (but not perceived) financial literacy declines with age, and by growing evidence of conflicted financial advice by broker-dealers, which exist alongside Registered Investment Advisers (RIAs), but which charge different types of fees and face a lower legal standard of care. We find that older clients are more likely to state that it is “critical” to work with an advisor who “puts the needs of me and my family first” and who is trustworthy. Older clients also exhibit systematically higher levels of trust in and satisfaction with their advisers. On their own, these patterns are consistent with older clients having been more successful than younger clients in matching with trustworthy advisers. However, despite similar levels of self-assessed financial literacy, we also find that older clients are less likely to match with an RIA or to understand how their adviser is being compensated for providing financial advice. The fact that older investors, who control the majority of financial assets in the United States, are both more trusting of their advisers and less knowledgeable about potential conflicts of interest increases the likelihood that they are the receiving and accepting conflicted financial advice.

Key findings:

- Older clients are more likely to state that it is “critical” that their financial adviser “puts the needs of me and my family first,” and more likely to “strongly agree” that their adviser does so.
- Older clients are systematically more trusting in their adviser than younger investors, but they are less trusting in the financial services industry.
- Older clients are less likely to work with registered investment adviser and more likely to report not knowing the level of fees that they paid for advice.
- Older clients are more satisfied with their advisers than are younger clients, raising the possibility that they are less able to detect when they are receiving conflicted advice.

Debt and Financial Vulnerability on the Verge of Retirement

Annamaria Lusardi, Olivia S. Mitchell, and Noemi Oggero

We analyze older individuals' debt and financial vulnerability using data from the Health and Retirement Study (HRS) and the National Financial Capability Study (NFCS). In the HRS, we examine three different cohorts (individuals age 56–61) in different time periods, 1992, 2004 and 2010, to evaluate cross-cohort changes in debt over time. In the NFCS we explore the 2012 and 2015 waves to gain additional insights into debt management and the capacity of older individuals to shield themselves against shocks.

Our goal is to assess how the financial position of older individuals has evolved over time, along with the potential consequences for retirement security. We find that more recent cohorts have taken on more debt and face more financial insecurity, mostly due to having purchased more expensive homes with smaller down payments. In addition, they are more likely to have engaged in expensive borrowing practices. Factors associated with better debt outcomes include having higher income, more education, and greater financial literacy; those associated with financial fragility include having more children and experiencing unexpected large income declines. Thus shocks do play a role in the accumulation of debt close to retirement. Nevertheless, it is not sufficient to have resources: people also need the capacity to manage those resources, if they are to be financially secure heading into and after retirement.

Key findings:

- Recent cohorts of older persons have more debt and face more financial insecurity than previous cohorts.
- This is mostly due to having purchased more expensive homes with smaller down payments.
- In addition, they are more likely to have engaged in expensive borrowing practices.
- Those avoiding debt had higher income, more education, and were more financially literate. People facing financial fragility had more children and experienced unexpected large income declines.

About the TIAA Institute

The TIAA Institute helps advance the ways individuals and institutions plan for financial security and organizational effectiveness. The Institute conducts in-depth research, provides access to a network of thought leaders, and enables those it serves to anticipate trends, plan future strategies and maximize opportunities for success. To learn more, visit www.tiaainstitute.org.

About the Pension Research Council

This nonprofit Center of The Wharton School of the University of Pennsylvania is committed to generating debate on key policy issues affecting pensions and other employee benefits. It sponsors interdisciplinary research on the entire range of private pension and social security programs, as well as related benefit plans in the United States and around the world.