

Transforming American Financial Security



Three Decades of
Groundbreaking Research
Recognized by the TIAA
Paul A. Samuelson Award

Contents

FOREWORD	IX
TRIBUTE TO PAUL A. SAMUELSON	XIII
INTRODUCTION	XIX

Part I: Decision-Making and Individual Choice: A Cornerstone of Financial Security Research	1
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How risk and uncertainty play a part in every financial decision	7
Christian Gollier on the 2001 Samuelson Award–winning book	

The lasting influence of retirement plan design	13
Brigitte C. Madrian on the 2002 Samuelson Award–winning paper	

Putting nudges to work on behalf of retirement savers	19
Shlomo Benartzi on the 2005 Samuelson Award–winning paper	

Painting a richer picture of financial lives in retirement	25
Erik Hurst on the 2006 Samuelson Award–winning paper	

A surprising assessment of Americans' retirement readiness	31
John Karl Scholz on the 2007 Samuelson Award–winning paper	

How human emotions drive markets and shape the economy	37
George A. Akerlof on the 2009 Samuelson Award–winning book	

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The two types of retirement savers—
and why the difference matters **43**

John N. Friedman on the 2015 Samuelson
Award-winning paper

Rethinking the conventional wisdom
on Roth retirement accounts **49**

Michael S. O'Doherty on the 2018 Samuelson
Award-winning paper

The untapped potential of
health savings accounts **55**

Adam Leive on the 2022 Samuelson Award-winning paper

The costly decision that can shortchange
a couple's retirement wealth **61**

Cormac O'Dea on the 2025 Samuelson Award-winning paper

Part 2: Retirement Income
Security and Insurance:
Bridging Theory and Practice **67**

The public policy that makes long-term
care insurance less appealing **71**

Jeffrey R. Brown on the 2008 Samuelson Award-winning paper

What drives the decision to
annuitize retirement savings **77**

Jonathan Reuter on the 2013 Samuelson Award-winning paper

Why income annuities are not
always the optimal choice **83**

Kent Smetters on the 2016 Samuelson Award-winning paper

Explaining the puzzle of why
retirees pass over insurance **89**

Lee M. Lockwood on the 2019 Samuelson Award-winning paper

An innovative idea for financing
life-extending medical care **95**

Stijn Van Nieuwerburgh on the 2020 Samuelson
Award-winning paper

Part 3: Financial Markets
and Investor Behavior: How
We Invest for the Long Term **101**

Devising novel strategies to insure
consumers from risk **107**

Robert J. Shiller on the 1996 Samuelson Award-winning book

The development of practical
tools for modeling the future **113**

Andrew W. Lo on the 1997 Samuelson Award-winning book

Making the case for holding
stocks for the long term **119**

Nicholas C. Barberis on the 2000 Samuelson
Award-winning paper

Toward a unified, simplified
approach to asset pricing **125**

John H. Cochrane on the 2001 Samuelson Award-winning book

The long-term risks of
short-term investing **131**

John Y. Campbell on the 2002 Samuelson Award-winning book

A fresh take on what to hold
in a tax-deferred account **137**

Chester S. Spatt on the 2004 Samuelson Award–winning paper

Why investing based on past
performance can be perfectly rational **143**

Jonathan B. Berk on the 2005 Samuelson Award–winning paper

The real reason investors often
pay too much in fund fees **149**

James J. Choi on the 2011 Samuelson Award–winning paper

Putting the impact of disclosures
on investor behavior to the test **155**

John Beshears on the 2017 Samuelson Award–winning paper

How the shift to target-date retirement
funds is changing the market **161**

Jonathan A. Parker on the 2024 Samuelson
Award–winning paper

Part 4: Institutions, Policy,
and Shocks: The Architecture
of Retirement **167**

How today’s idea of retirement
became a reality **173**

Dora L. Costa on the 1998 Samuelson Award–winning book

The false promise of
privatizing Social Security **179**

Stephen P. Zeldes on the 1999 Samuelson Award–winning paper

A look back at a half-century of
efforts to reform Social Security **185**

Peter A. Diamond on the 2003 Samuelson Award–winning book

What we can learn from eight hundred
years of financial history **191**

Carmen M. Reinhart on the 2010 Samuelson
Award–winning book

Sounding the alarm about the
retirement system’s shortcomings **197**

Sylvester J. Schieber on the 2012 Samuelson
Award–winning book

What will it take to restore
our nation’s fiscal democracy? **203**

C. Eugene Steuerle on the 2014 Samuelson Award–winning book

Identifying the right lifeline
for struggling homeowners **209**

Pascal Noel on the 2021 Samuelson Award–winning paper

The potential power of regulatory
reform to help consumers **215**

Mark Egan on the 2023 Samuelson Award–winning paper

APPENDIX **221**

PHOTO GALLERY: HIGHLIGHTS FROM AWARD EVENTS **222**

THIRTY YEARS OF SAMUELSON AWARD WINNERS **230**

SAMUELSON AWARD JUDGES **236**

Foreword

As we commemorate three decades of the TIAA Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security, I am honored to introduce this compendium of groundbreaking research that has shaped our understanding of retirement security and financial well-being.

At TIAA, we recognize that retirement security represents one of the most pressing challenges of our time. The demographic shift we face is unprecedented: More than ten thousand Americans turn sixty-five every day, and by 2030, the entire baby boomer generation will be of retirement age. This evolution demands the kind of innovative thinking and evidence-based solutions that the Samuelson Award has consistently championed.

I've often reflected on my personal journey and how it shapes my commitment to financial inclusion. Early in my career, I witnessed my father's transformation when he received financial advice that put him on a path toward security. That pivotal moment demonstrated the power of financial knowledge and accessibility, principles that lie at the heart of our mission at TIAA.

The research celebrated through the Samuelson Award represents our collective effort to democratize financial security. Named after Nobel laureate Paul A. Samuelson, the first American to win the Nobel Prize in Economics and a former CREF trustee, this prestigious award recognizes scholarly work that advances our understanding of retirement security and has practical applications for enhancing Americans' financial well-being. Each winning publication cited in this collection of essays represents a vital contribution on both counts.

The TIAA Institute stands as a cornerstone of our commitment to thought leadership and practical innovation in financial security. Through the Institute's work, including the Samuelson Award, we bridge academic rigor and real-world applications, turning insights into actions that improve lives. This award exemplifies how research can transcend theoretical boundaries to have a tangible impact on individuals planning their financial futures.

Today's retirement landscape differs dramatically from when the award was established in 1996. We face uncertainty due to unprecedented longevity, shifting employment patterns, evolving family structures, and new economic challenges. The research featured in this book helps navigate these complexities by proposing actionable approaches in the areas of lifetime income, behavioral finance, financial literacy, and more.

As we look ahead, I remain deeply committed to expanding our impact. Financial security should not be a privilege for some but an accessible reality for all. By highlighting exemplary

research through the Samuelson Award, we continue to build the knowledge foundation required for meaningful progress in retirement security.

I invite you to explore this remarkable scholarship—work that has influenced policy, practice, and individual financial decision-making over three decades. These books and papers represent not just academic achievement but stepping stones toward a future where financial security is attainable for everyone.

Together, we continue the important work of transforming lives through education, lifetime income, retirement security, and longevity fitness.



Thasunda Brown Duckett
President and CEO
TIAA

A Tribute to Paul A. Samuelson and the Award Named in His Honor



Paul Samuelson was one of the leading economists of the twentieth century. His boldly titled 1940 PhD dissertation, *Foundations of Analytical Economics*—the basis for his 1947 book *Foundations of Economic Analysis*—was a landmark in the development of mathematical economics and in the rigorous formalization of economic analysis. For his pathbreaking scientific contributions, Samuelson was awarded the Nobel Memorial Prize in Economic Sciences in 1970—becoming the recipient of only the second economics prize bestowed and the first American to win it. In 1996, he received

the National Medal of Science, the US government's highest honor for scientific achievement. At the Massachusetts Institute of Technology, where Samuelson spent his entire career, he was an Institute Professor, the university's highest honor.

Samuelson made fundamental contributions to many fields within economics, one of which was financial economics. He provided a theoretical foundation for the empirical discovery that the movements of stock prices and other asset prices are well-described as a random walk. He famously proved that the common adage “stocks are safer in the long run” is not a universal truth but accurate only under particular circumstances and not because stocks are less risky over long time horizons. Along with his student Robert Merton, he studied the problem of lifetime portfolio selection using the tools of stochastic dynamic programming, introducing what is today a workhorse framework in the field of household finance.

BEYOND ACADEMIA: SAMUELSON'S FAR-REACHING IMPACT

Samuelson's contributions to financial economics went beyond academic journals. He was an early advocate of low-cost, low-turnover, well-diversified portfolios for individual investors. As a biweekly columnist for *Newsweek* in the 1970s and early 1980s, taking turns with fellow Nobel laureate Milton Friedman, Samuelson often addressed investment issues. With columns like “Investment Secrets” (April 5,

1976) and “No-Fuss, Canny Investing” (February 4, 1980), he urged readers to resist the temptation to time the market and instead to adopt “set and forget,” low-cost passive strategies such as those offered by recently introduced index funds. Throughout his career, Samuelson was actively interested in household investment behavior and the evolution of the asset management industry.

Samuelson found time in his demanding schedule to help advance the retirement security of the academic and nonprofit workforce. He was elected a trustee of the College Retirement Equity Fund (CREF) in 1974 and served in this role for eleven years. He and William Greenough, the chief architect of CREF and the CEO and chairman of TIAA-CREF when Samuelson became a trustee, had been roommates as Harvard graduate students in the 1930s. Perhaps that helped in recruiting him! Samuelson played an important role in bringing insights from the emerging field of financial economics to bear on the investment process at CREF.

THE PAUL A. SAMUELSON AWARD: CARRYING HIS LEGACY FORWARD

In 1996, the TIAA-CREF Institute launched the TIAA-CREF Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security. This was at least a decade before household finance had become a well-defined subfield of finance and economics. The prize sought to draw attention to high-quality research on issues such as optimal

saving in different life phases, age-related asset allocation, retirement, long-term investment returns, and the role of insurance against various risks—issues that collectively were important to the design and execution of a successful lifetime financial plan. The focus of the award was inspired by TIAA-CREF’s long-standing emphasis on providing financial security for participants “to, and through, retirement.” This year marks the thirtieth anniversary of the award, which, since 2016, has been known as the TIAA Paul A. Samuelson Award.

Each year, the TIAA Institute (formerly the TIAA-CREF Institute) recruits a panel of distinguished researchers from economics and finance to serve as the selection committee for the award, which is presented at the annual Allied Social Science Associations meetings. The large turnout at these meetings makes it possible to draw widespread attention to the award-winning research and to host a reception that is a gathering place for the growing group of researchers who are studying lifetime financial security. Researchers working on issues as varied as pension plan design, the effect of financial regulations on household borrowing and investing, mortgage markets, taxation and portfolio structure, and Social Security reform, view the Samuelson Award ceremony as an important opportunity to celebrate research in this area and to brainstorm about fertile directions for future work.

In the early years of the award, the TIAA Institute informed Samuelson of the selection committee’s decision and invited him to prepare a short message to the winner. His comments

were invariably insightful and constructive, sometimes suggesting ways to generalize the award-winning research, other times calling attention to follow-on questions that might warrant investigation. Until his passing in 2009, his notes to the awardees, often handwritten, were an unexpected and much-appreciated aspect of the award. They offered tangible evidence of the importance that Samuelson, whose research stretched far and wide across the discipline of economics, placed on the study of lifetime financial security.

Today, the award is a powerful reminder of Paul Samuelson’s long-standing interest in the core issues of household finance and in his belief that insights from research in economics and finance could be translated into enhanced financial security for the population at large.

James Poterba

Mitsui Professor of Economics, Massachusetts Institute of Technology; President of the National Bureau of Economic Research; and CREF Trustee.

Introduction

It is with immense pride that we present this commemorative volume marking the thirtieth anniversary of the TIAA Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security. Since its inception in 1996, this award has recognized exceptional thinking that advances Americans' financial well-being and research that embodies the intellectual rigor, practical relevance, and public-mindedness that characterized Paul Samuelson's own distinguished career.

THE TIAA INSTITUTE: A CATALYST FOR FINANCIAL SECURITY RESEARCH

The TIAA Institute aspires to be the go-to source for thought leadership in financial security and organizational effectiveness. For decades, we have pursued our mission to help advance the ways individuals and institutions plan for financial security through in-depth research, network building, and strategic foresight. Our work spans retirement security, financial literacy, behavioral finance, workforce issues, and healthcare trends, all critical components of lifelong financial well-being.

The Institute serves as a bridge between academic research and practical application, bringing together scholars, policymakers, and industry leaders to address pressing challenges in financial security. Through research grants, fellowships, and symposia, we foster collaboration that aims to translate cutting-edge thinking into actionable insights. Our community of thought leaders represents the finest minds across economics, finance, and related disciplines, all united by a commitment to enhancing financial security for all Americans.

THE TIAA AWARDS PROGRAM: RECOGNIZING EXCEPTIONAL MERIT AND INNOVATION

The Institute's awards program represents our commitment to recognizing leadership excellence in higher education and outstanding scholarly achievements in financial security. These awards not only celebrate individual accomplishments but also highlight work that advances our collective understanding of how to build more secure financial futures.

Each year, our awards shine a spotlight on research that combines intellectual depth with practical impact, work that helps individuals navigate complex financial decisions and assists institutions in creating more effective retirement systems. By recognizing excellence, we aim to inspire further innovation in financial security research and practice.

THE PAUL A. SAMUELSON AWARD: A LEGACY OF EXCELLENCE

Named in honor of Nobel Prize winner and former CREF trustee Paul A. Samuelson, this award holds special significance in our program. Samuelson's contributions to economics transformed the field, bringing mathematical rigor to economic theory and making complex ideas accessible to generations of students through his bestselling textbook. His work as an advisor to presidents and his engagement with the public through his *Newsweek* column demonstrated his commitment to ensuring economic thinking served the public good.

The award bearing his name carries forward this legacy, recognizing publications that meet the highest standards of scholarly excellence while addressing practical challenges in financial security. Winners are selected by an independent panel of distinguished judges, Institute Fellows, and previous award recipients, who evaluate submissions based on their originality, methodological rigor, and potential impact on Americans' financial well-being. The prize underscores the significance we place on this work.

CELEBRATING 30 YEARS OF IMPACT

As we mark three decades of the Samuelson Award, we celebrate not only the thirty-three winning publications but also the broader impact this award has had on the field of financial security research. From groundbreaking work on behavioral economics and retirement savings to

innovative studies of risk management, asset allocation, and longevity protection, the award-winning research represents the evolution of our understanding of financial security challenges and solutions.

This compendium offers an opportunity to reflect on this rich legacy and to consider how these insights continue to shape policy discussions, industry practices, and individual financial decisions. It is also a chance to look forward to the next generation of research that will help Americans navigate an increasingly complex financial landscape.

ACKNOWLEDGMENTS

None of this would be possible without the dedication and support of many individuals and organizations. I extend my sincere gratitude to our CEO, Thasunda Brown Duckett, whose vision and leadership have strengthened the Institute's mission; to our trustees, whose guidance ensures we remain focused on meaningful impact; to our contributors, whose work advances the frontiers of knowledge; to the many researchers who have served as independent judges for the award; and to the Institute team, whose tireless efforts bring our programs to life.

Most importantly, I thank the award winners, whose intellectual curiosity and commitment to excellence exemplify the spirit of the Samuelson Award. Their contributions have not only advanced academic discourse but have helped improve financial outcomes for countless Americans.

LOOKING TO THE FUTURE

As we look ahead, the TIAA Institute remains committed to fostering research that addresses emerging challenges in financial security. From the implications of longer lifespans and changing work patterns to the opportunities and risks presented by financial technology, we will continue to support scholarship that illuminates paths toward greater financial well-being for all. As we peer deeper into the twenty-first century, we are thinking and acting on the belief that health and wealth are two sides of the same coin.

This thirtieth anniversary is not merely a celebration of past accomplishments but a recommitment to our founding purpose: advancing the ways individuals and institutions plan for financial security. With the continuing inspiration of Paul Samuelson's legacy and the brilliant work of our research community, we look forward to the next chapter in this important mission.

Surya P. Kolluri, CRPC™

Head of TIAA Institute

1

Decision-Making
and Individual Choice

A Cornerstone
of Financial
Security
Research

The life cycle hypothesis is an economic theory that seeks to explain how individuals plan their consumption and saving behavior over the course of their lifetimes. It proposes that people can make rational decisions to maximize their well-being, given their preferences and constraints (like income and time). In practice, however, people often make mistakes in judgment, fail to consistently exercise self-control, and may lack the financial expertise needed to conform to predictions from the simple rational model. Hence, the field of behavioral finance and economics has sought to expand the classical economic model to incorporate economic theory and empirical work by acknowledging human limitations, turning them into insights for better decision-making and policy. The award-winning works collected here contribute to bringing economics closer to how people actually think and behave, and in doing so explain how psychological factors, institutional design, and policy influence people's financial decision-making.

An early award winner, Christian Gollier's 2001 book on the economics of risk and time offered insights into how uncertainty affects the financial choices people make over their lifetimes. His study showed that a unified analytical framework is needed to understand how individuals make what are known as "intertemporal choices," or choices in one time period for a future time period in the face of uncertainty.

The question of whether people save optimally for retirement was tackled head-on by John Karl Scholz, Ananth Seshadri, and Surachai Khitatrakun in 2006. Contrary to some

experts' views, their analysis revealed that most Americans were, in fact, saving adequately for retirement. Research by Mark Aguiar and Erik Hurst in 2005 documented that retirees did reduce their spending after retirement, but they also maintained their consumption levels by substituting time for money. Aguiar and Hurst's research thus challenged the conventional view that individuals would keep spending levels steady over their lifetimes.

The view that individuals in the real world do not always follow the fully rational neoclassical model is not a new one. In fact, in 1936, John Maynard Keynes coined the term *animal spirits* to describe how psychological factors drove economic deviations from theory. Building on that work, George Akerlof and Robert Shiller's 2009 book *Animal Spirits* provided a broad framework for why and how psychology can drive economic decisions. Their five psychological factors—confidence, fairness, corruption, money illusion, and storytelling—offered a new lens for analyzing decisions. That book was a call to economists and policymakers to adopt a more realistic, human-centered view of economic behavior.

The 2004 study of the "Save More Tomorrow" program by Shlomo Benartzi and Richard Thaler showed that leveraging behavioral biases rather than fighting them could enhance retirement saving. This landmark contribution to behavioral economics pioneered the use of behavioral nudges in retirement policy, confirming that getting employees to pre-commit to saving future pay increases boosted people's retirement savings.

In addition to identifying these psychological factors, several researchers have documented that the way in which choices are structured also matters. Brigitte Madrian and Dennis Shea’s 2001 study of automatic enrollment in 401(k) plans revealed how altering choice defaults dramatically affected outcomes, demonstrating the power of inertia and choice architecture in financial decision-making. Choice architecture was also an important feature in the 2014 work by Raj Chetty, John Friedman, and their colleagues at the University of Copenhagen, who found that most savers were passive, with their retirement saving outcomes driven more by plan design than tax incentives.

Nevertheless, substantial research has also confirmed that tax policies can change how individuals save. The 2017 study “Tax Uncertainty and Retirement Savings Diversification” by David Brown, Scott Cederburg, and Michael O’Doherty concluded that when future tax rates are uncertain, it is optimal for investors to diversify their retirement savings across taxable, tax-deferred, and tax-exempt accounts, even if they are risk neutral. In practice, however, savers appear to treat savings in different accounts differently. To this point, Adam Leive’s 2022 study, “Health Insurance Design Meets Saving Incentives: Consumer Responses to Complex Contracts,” showed that people struggle to understand and respond optimally to complex health insurance and savings incentives, leading to suboptimal financial and healthcare decisions—even when the incentives are economically significant. In particular, many people do not see their health savings account (HSA) balances as part of their overall savings

portfolios, but instead mentally categorize the HSA funds as only for medical expenses rather than long-term savings.

The impact of this research extends far beyond academic circles and has directly impacted Americans. Today, automatic enrollment is a widespread feature in 401(k) and 403(b) plans. Retirement, tax, and HSA policies are actively debated by policymakers and in the media. As we face new challenges in household financial decision-making arising from an aging population, these foundational works offer guidance and critical insights for the next generation of scholars, policymakers, and financial professionals working to enhance financial security for all Americans.

Olivia S. Mitchell

International Foundation of Employee Benefit Plans Professor and Professor of Insurance and Risk Management and Business Economics and Public Policy; Executive Director of the Pension Research Council; and Director of the Boettner Center on Pensions and Retirement Research, all at The Wharton School of the University of Pennsylvania

The Economics of Risk and Time

The MIT Press, 2001

Christian Gollier

University of Toulouse

WINNING BOOK: 2001

OVERVIEW

This book on the economics of risk and time updates and advances the theory of expected utility, focusing on applications of the theory in finance, macroeconomics, and environmental economics and offering insights into how uncertainty affects the financial choices people make throughout their lives.

How risk and uncertainty play a part in every financial decision

In his award-winning book, Christian Gollier, director of the Toulouse School of Economics, delves into the uncertainty behind every financial choice, from how to invest to what to buy. Here he talks about the role of risk in financial decision-making, the foundational research he was building on, and the latest turn his career has taken.

The following comments on the book have been edited for clarity.

“**H**ow does risk affect our welfare, and, in the face of risk, which decision would be considered the best? Because risk is everywhere, these two interrelated questions are central to our lives and to our society. How should the uncertainty surrounding the impacts of climate change modify our willingness to reduce our emissions of CO₂? What is the optimal compromise between risk and return in our portfolios? Should we care about

the unsustainable nature of our collective growth process? Should we wait to get more information about genetically modified food before consuming it? Should younger people take more risks?

“A key question for regulating financial markets is related to the measurement of risk and its impact on welfare. Risk is inherent to entrepreneurship and prosperity, so addressing the question of what level of risk is acceptable (and what is not) is necessary for regulating the economy in the wisest way.

“Over the last century or so, economists have been modeling time, risk, and inequalities in the same way. For example, to evaluate a policy, we use the impartiality principle, or the veil of ignorance about who you will be. In this context, inequality is risk. Similarly, to evaluate an investment project in which costs and benefits are spread over time, we treat different dates in this intertemporal context as different states of nature under risk. It happens that economists have developed a very strong corpus of methods and results related to optimal decisions combining these dimensions of risk, time, and inequality. They are useful in finance, public choice, capital budgeting, macroeconomics, and the economics of climate change, for example. This book provided a synthetic description of these methods and results.

“At the turn of the century, at the time I wrote this book, there was a relatively strong consensus about how to treat risk and time in economic modeling. This consensus was based on work done right after WWII by scientists like Oskar Morgenstern, John von Neumann, and Leonard Jimmie

Savage, who rationalized the expected utility framework invented by Daniel Bernoulli in the first part of the eighteenth century. This consensus centers on the idea that if you prefer to go to the movies tonight rather than to the restaurant, you will not change your mind if you learn that there is some probability of being forced to stay home. All methodologies and results in my book, and in 99 percent of the results existing in economic theory where risk is involved, are extracted from that idea.”

In the quarter century since this book was published, risk analysis has evolved, and Gollier has turned his attention to an important new field of economics.

“Although the methodologies and results described in the book covered a lot of topics, new and important ideas and results have emerged over the last two decades. For example, we now better understand the importance of extreme events in shaping the optimal actions in the face of risk. That idea was in the book, but it was less developed.

“Since I wrote this book, I’ve moved into climate economics. Climate change is an extraordinary domain for decision theorists because of the immense risks and uncertainties surrounding the climate and economic dynamics for centuries to come. This is a domain in which deep theoretical questions remain open—including deep uncertainties about the destiny of human beings on this planet—and where, at the same time, there is such a strong social demand for operational resolutions of the energy transition in the face of our responsibilities toward future generations.

“In the US, to evaluate the urgency of this transition, the Trump administration wanted to use a rate of 7 percent to discount future climate damages, whereas the Biden administration established a rate of 2 percent to perform this task. This yields a vast reduction in the carbon value—around \$10 per ton of CO₂ under Trump versus around \$200 per ton under Biden. This is how politicians play with scientific controversies. These are very serious questions for economists.

“Winning the Samuelson Award was an extraordinary achievement in my career. My work is intimately linked to Paul Samuelson’s work in portfolio theory, public economics, and macroeconomics. I know what I owe to him, both intellectually as the father of many ideas developed in the book and through his support signaled by this award.”

“The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior”

The Quarterly Journal of Economics, 2001

Brigitte C. Madrian
University of Chicago

Dennis F. Shea
United Health Group

WINNING PAPER: 2002

OVERVIEW

In this groundbreaking behavioral analysis of 401(k) participation at a large corporation, the authors examine the impact of automatically enrolling employees in the plan, while allowing them to opt out. This study demonstrates both the power of inertia on retirement plan participation and the lasting influence of defaults.

The lasting influence of retirement plan design

As the 401(k) evolved into the de facto retirement savings plan, improving employee contribution rates and investment choices became a critical issue. In this conversation with David P. Richardson, head of research at the TIAA Institute, Brigitte C. Madrian, now professor of finance and dean of the business school at Brigham Young University, discusses what she and co-author Dennis Shea learned about the impact of 401(k) plan design, how behavioral finance insights can explain savings rates, and strategies to further improve retirement outcomes.

The following comments on the paper have been edited for clarity.

“ I had not been planning to research retirement savings. But at a meeting I was attending, a consultant told me about a 401(k) plan their client administered and asked me to do a regression analysis of their data. At that time, savings research was mainly based on national aggregated data or surveys asking people how much they saved, not on

actual administrative data from employers. I thought there was something to be done there. Then the consultant said as an afterthought, ‘We don’t know if this matters or not, but last year they implemented automatic enrollment.’ When they described this change, I knew there was going to be something interesting in this paper.

“Back then, I was at the University of Chicago. I’d never had a class in behavioral economics, but Richard Thaler was a colleague. As soon as I analyzed the data, I showed him the results, and he was very excited. The company only had a year-and-a-half’s worth of employees who’d been hired under automatic enrollment. If you just looked at the aggregate savings, you wouldn’t see that this change had any impact. But when you looked separately at the employees who were hired before auto-enrollment, then compared them with the employees who were hired after, the plan participation rate of that auto-enrolled group was almost 50 percentage points higher. That was quite a dramatic finding.”

After the paper was published, the Department of Labor, as well as major plan sponsors, invited Madrian to present her findings, and the IRS began issuing letter rulings that made it clear that employers could implement automatic enrollment.

“Being invited to talk about this work made me realize just how impactful and relevant economic research could be in the real world. At the time I was working on this paper, very few companies had automatic enrollment. This was still a time when companies were trying to decide whether to keep offering a defined benefit plan. Many companies had a

401(k) plan, but it was supplemental. I think that this paper gave them some confidence that you could shut down your defined benefit plan and still help your employees save for retirement.”

While automatic enrollment led to higher 401(k) plan participation rates, the researchers also noticed limits on the overall benefits. Some 76 percent of the auto-enrolled employees stayed with the low default contribution rate of 3 percent, and 75 percent kept their entire balances in a money market fund, the default option. By contrast, 90 percent of the non-auto-enrolled employees invested in a stock fund.

“Inertia has a strong impact on participant behavior. Once enrolled in their plan, very few dropped out. It was clear from our study that automatic enrollment is very successful in getting employees over the hurdle of choosing to participate in their 401(k). It’s a complex decision that leads many people to procrastinate or simply fail to sign up, and auto-enrollment makes it easier. But that inertia also meant that the defaults had a lasting impact. Many participants ended up with a sub-optimal contribution rate and investment allocation. Many did not feel confident about their ability to make good decisions in this space because of limited financial literacy.”

Findings like these helped prompt the federal government to approve automatic escalation and the use of target-date retirement funds as a default investing option in 401(k)s, leading to higher contribution rates and more diversified portfolios. In the decades following the publication of this paper, Madrian continued to research behavioral economics and household financial decision-making, often working with fellow Samuelson Award winners David Laibson, James Choi, and John Beshears.

“One of the things we looked at in our follow-on research was if you help people save more through automatic enrollment, how persistent is that savings? Do people just find another way to access it, such as taking out a loan or hardship withdrawal? Or you might borrow money on your credit card because you haven’t saved enough outside your plan. In our research, we didn’t find big increases in consumer debt due to automatic enrollment. What we do find is a higher likelihood of 401(k) loans, withdrawals, or cash-outs when employees separate.

“If you really want to make the 401(k) a true retirement account, one option is to reduce the ability to access that money. Or you need to help ensure that individuals have a non-retirement account as well. There is a growing interest in creating sidecar savings accounts for employees to fund short-term needs, which would make their 401(k) savings a bit stickier. If you only have one savings account, and it’s called your 401(k) plan, it’s not really a retirement account—it’s a retirement and everything else account. What I think our research highlights is that you have to design a retirement saving system holistically. Of course, overhauling the retirement system would be very tricky. But I think we’ve learned what works.

“I was thrilled to receive the Samuelson Award. I was an associate professor at the University of Chicago at the time, but I didn’t have tenure. This was an award for a new stream of research that I was just starting, and it was great validation. But then I also felt like I had to live up to it!”

“Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving”

Journal of Political Economy, 2004

Richard H. Thaler

University of Chicago

Shlomo Benartzi

University of California, Los Angeles

WINNING PAPER: 2005

OVERVIEW

As defined-contribution retirement plans have come to replace traditional pensions, decisions about saving for retirement fall to employees, who often fail to contribute or save far too little. Drawing on behavioral research, the authors propose a plan that commits employees to setting aside a portion of their future salary increases toward their retirement savings.

Putting nudges to work on behalf of retirement savers

Saving for retirement is always challenging, as workers often lack the self-control to set aside enough for future goals. In this conversation with Surya P. Kolluri, head of the TIAA Institute, Shlomo Benartzi, professor emeritus, behavioral decision-making at UCLA, discusses how the Save More Tomorrow plan he and Richard Thaler developed more than twenty years ago overcame this behavioral hurdle by giving workers the option of automatically increasing their savings rate as they received raises.

The following comments on the paper have been edited for clarity.

“**O**ur paper was aimed at convincing plan sponsors and recordkeepers that the idea works. Save More Tomorrow gives workers the option of committing themselves now to increasing their savings rate later, starting with their next raise. Their contribution rate continues to increase with each subsequent raise up to a preset maximum. This automatic escalation helps workers overcome behavioral

hurdles, such as inertia and procrastination, and increase their retirement savings. The employee can opt out anytime.

“Our study used data from one mid-sized firm that implemented this program in 1998, as well as preliminary data for two other companies that started the plan a few years later. The results showed that the Save More Tomorrow plan could produce dramatic savings increases.”

Thaler and Benartzi found that 78 percent of employees who were offered the program signed up, and 80 percent of those enrolled remained in it through the fourth pay raise. Average savings rates rose from 3.5 percent of pay to 13.6 percent over forty months.

Over the past thirty years, the Save More Tomorrow approach has been widely adopted by employer retirement savings plans, especially after automatic escalation received approval in the Pension Protection Act of 2006. Further cementing that approval, the Secure 2.0 Act of 2022 required new plans with at least ten participants to use automatic escalation. Since its inception, Save More Tomorrow has helped more than twenty-five million plan participants boost their savings rates.¹

“The Save More Tomorrow plan is the most successful nudge ever, and it shows the potential impact of research. But to have that impact, you need to have the right research at the right time to show companies that it works. You also have to interact with the industry or government to achieve scale.

“But the work isn’t done. There are still steps that regulators could take to improve 401(k) savings, such as using smarter defaults. The 3 percent minimum default rate is still too low.

Research I did with John Beshears and others found that using a 7 percent minimum would improve savings without lowering participation.² Automatic escalation could rise even faster than the 1 percent-a-year increment that most plans use. Other research I've worked on shows the rate could rise 2 percent annually without causing many people to opt out.”³

Benartzi is continuing to research other applications of behavioral research to improve financial security. Recently, he's been finding promise in strategies that use technology, particularly AI, to personalize retirement planning advice and facilitate new research.

“We now have the algorithms and the data at a broad scale, which give us the ability to provide people with savings choices that are more personalized and holistic. By answering certain questions via a chatbot, a participant may be able to get personalized savings advice, which may be quite different from the standard advice. For example, a single mom with three kids and five maxed-out credit cards may not be the right candidate for automatic escalation. But another person with stronger finances might ratchet up their savings rate beyond 3 percent or 6 percent.

“Instead of waiting weeks and spending tens of thousands of dollars to field traditional survey responses, AI can also be used to create generative population engines that simulate statistically accurate consumer responses. My team was able to replicate participant sentiment, such as anxiety, about being financially prepared for retirement, as well as detailed financial estimates about how much money people

will need to retire comfortably. The technology is moving fast. Whatever we learned in the last thirty years, we're going learn even more in the next three years.”

¹ Shlomo Benartzi, “Small Steps That Can Boost Your Retirement Savings,” *The Wall Street Journal*, March 4, 2023.

² John Beshears et al., “How Do Consumers Respond When Default Options Push the Envelope?” October 7, 2017.

³ Voya Financial, “How to auto-escalate your 401(k),” February 2023.

“Consumption versus Expenditure”

Journal of Political Economy, 2005

Mark Aguiar

Federal Reserve Bank of Boston

Erik Hurst

University of Chicago and NBER

WINNING PAPER: 2006

OVERVIEW

This paper tackles a subtle but important flaw in the way economists have traditionally measured household well-being. Many studies equate spending with consumption, positing that if someone spends less, they must be consuming less. This analysis finds that expenditures and consumption are not always the same, especially during retirement.

Painting a richer picture of financial lives in retirement

In this conversation with David P. Richardson, head of research at the TIAA Institute, Erik Hurst, the Roman Family Distinguished Service Professor of Economics and director of the Becker Friedman Institute at The University of Chicago Booth School of Business, talks about the trade-offs between time and money, how people manage economic transitions, and why expenditures shouldn't necessarily be the main yardstick for measuring economic well-being.

The following comments on the paper have been edited for clarity.

“I can tell you the exact origin story of this paper. At a seminar series, Jonathan Skinner presented the work on retirement consumption that he'd done with B. Douglas Bernheim and Steven Weinberg, where they show that people get to retirement, and their consumption just falls sharply.¹ The next day at lunch, Mark Aguiar and I were riffing ideas on what could cause that, and we thought of the lower prices of the early-bird special. So, twenty-some years later, my files for this project are still labeled 'Early Bird.'

“We decided that what we'd love was to have food diaries to match with the economic statistics, and we found that the Department of Agriculture collected these nationally representative food diaries, kind of like we did in health class in the 1980s, and we were able to order them on CD-ROM. They were from the Continuing Survey of Food Intake by Individuals, which reports not just what people spend on food, but also what they actually eat and how nutritious it is.”

What Hurst and Aguiar found was that at retirement, food expenditures decline by about 17 percent. During the same period, time spent shopping for and preparing food rises by over 25 percent. Retirees spend an average of eighteen more minutes per day on food production. The nutritional quality of food does not decline in retirement. If anything, it improves slightly. These consumption patterns imply that retirees were not experiencing any significant drop in their standard of living. It's merely a shift in how people choose to spend their time.

“We quickly got a sense of the median person and how they behaved. People in retirement substituted more home production, and they shopped more efficiently. They still ate at restaurants, but their low-quality food consumption, such as fast food that tends to be associated with consuming lunch at work, dropped. They maintained consumption utility relatively well as they transitioned into retirement, even though expenditures did fall.

“If people are really struggling in terms of their finances, you should see them move away from the luxury stuff and back toward necessities. And we didn't see any sort of that drifting. There's fancy bread, and then there's regular white

bread. The richer you are, the more likely you are to buy fancy bread relative to regular. You see the same thing with different cuts of meat. Or lobster versus sausage. When we followed people into retirement, we didn't see a substitution away from fancy bread toward white bread, or away from lobster toward sausage.

"I believe that the median household does pretty well. That doesn't mean that there's not heterogeneity at some parts of the distribution, and that there aren't liquidity constraints or some people who don't prepare enough."

In fact, Hurst and Aguiar found that in the case of unemployment and retirees who experienced health shocks early in retirement, the drop in food expenditures is matched by a real decline in consumption. Unemployed individuals spend 19 percent less on food and consume fewer calories, less vitamin C, and less protein. The findings support the idea that households respond differently to anticipated and unanticipated income changes.

"When you become unemployed, there is evidence that your actual lifetime income does go down, particularly for major unemployment spells, and the consumption data picked that up. You did substitute away from lobster toward sausage and away from fancy bread toward white bread during those periods.

"While unemployed people also spend more time preparing food, the extra effort is not enough to maintain the same quality or quantity of consumption. We interpreted this as a genuine drop in permanent income, one that is unplanned and harder to smooth out.

"Sometimes when we're trying to make optimal policy to try to help families with transitions through their lives, including retirement, we get wrapped up in things like health, savings, and pensions. When we're thinking about these transitions, we need to think broadly and not just focus on the spending that people do in retirement, but also try to figure out broader measures of well-being.

"Winning the Samuelson Award was an extremely big honor. I was surprised when it came through. I've won a few awards over time, and this is one of the ones I will always highlight in my biography."

¹ B. Douglas Bernheim et al., "What Accounts for the Variation in Retirement Wealth among U.S. Households?" *American Economic Review*, 2001.

“Are Americans Saving ‘Optimally’ for Retirement?”

Journal of Political Economy, 2006

John Karl Scholz

University of Wisconsin–Madison

Ananth Seshadri

University of Wisconsin–Madison

Surachai Khitatrakun

Urban Institute

WINNING PAPER: 2007

OVERVIEW

This paper takes up one of the most debated questions in economics and public policy: Are American households saving enough for retirement? In contrast to the often-alarming storyline suggesting widespread undersaving, the authors present a detailed and thoughtful analysis that arrives at a surprisingly optimistic conclusion.

A surprising assessment of Americans' retirement readiness

For decades, media headlines and financial industry commentary have shared a pessimistic view of Americans' retirement prospects: Most are not saving enough. But John Karl Scholz, now president of the University of Oregon, had his doubts about that observation, and when he and two colleagues dug into the data, they came to a startlingly different conclusion. Here, Scholz talks with David P. Richardson, head of research at the TIAA Institute, about what they found.

The following comments on the paper have been edited for clarity.

“**A**t the time, the overwhelming view one would have from reading the popular financial press or more academically inclined papers was that Americans were heading like lemmings over a cliff to improvident retirements. We had a certain amount of skepticism. Our

motivation for doing this paper was an unhappiness with much of the work that sought to understand how much people should be saving to have a secure retirement.

“When you looked at the literature or tried the retirement calculators that people were using, the conclusion was that families had to accumulate enormous amounts of wealth. That’s a problem because, in the face of targets that are unrealistic or unachievable, people will often just shut down and give up. We felt there needed to be a more rigorous basis for trying to establish reasonable saving targets.”

At the heart of this paper is a life cycle model, a framework used to understand how people make decisions about saving and consumption over time, incorporating real-world complexities. Unlike earlier studies, which tended to apply averages to broad population groups, the authors created a model calibrated at the household level using rich data from the University of Michigan Health and Retirement Study (HRS), including more than four decades of earnings records from the Social Security Administration. This enabled them to tailor saving targets to each household’s unique circumstances.

“The life cycle model provides by far the most intellectually rigorous way to think about these problems. Having a complete record of the earnings of households during their working lives helped us understand their actual earnings trajectories and the volatility that affected them. Along with assumptions about life expectancy and demographic changes within the household, this provided us with a much more analytically sound approach to attacking our question: How did each household’s actual wealth in 1992 compare with

what our model predicted they should have saved by that point, given pensions and Social Security?”

Most Americans, the authors found, are doing well in preparing for retirement when viewed through this lens. More than 80 percent of the households in the original HRS cohort had saved enough or more than enough for retirement. Only about 18 percent had accumulated less wealth than the model suggested they should have, and among those households, the shortfall was typically modest.

“To say we were shocked might be a little strong, but we were very, very surprised at this result. It’s important to note that, as in the title of our paper, the idea of saving *optimally* has to be in quotation marks. We weren’t using a colloquial idea of optimal, meaning that everyone would be able to afford everything they wanted during retirement. In the context of our paper, optimal means that someone will be able to maintain their pre-retirement living standards. If they didn’t have enough resources before retirement, they wouldn’t have enough in retirement—but their standard of living wouldn’t fall.

“To understand what’s going on, think about two things: Social Security and children. For a low- or moderate-income family, Social Security provides a sufficient foundation. That’s because, before retirement, a lot of the resources coming in were going to support children. When kids have left the household by retirement, having an annuity worth 50 percent of pre-retirement income allows the couple to maintain living standards.

“The retirement planning community has a certain self-interest in stirring up anxiety about how complicated it is to save for retirement. If our findings were wrong, wouldn’t we be hearing from all these retirees who were miserable? Moreover, the HRS has qualitative questions about how satisfied people are in retirement. That’s not to say that everyone gets this exactly right, but there isn’t an enormous amount of literature with people warning, ‘Please don’t do like I did.’ That gave me a certain amount of comfort.”

From a practical standpoint, the paper suggests that rather than promoting the idea of a universal retirement crisis, it may be better to identify specific groups that are truly at risk, including certain single households, those with disrupted earnings histories, and workers without access to employer-provided retirement plans.

“The reality of what constitutes a family also changes over time, and in the years since we published our paper, there have been demographic shifts that could put additional pressure on people trying to save optimally for retirement. If many parents are taking financial responsibility for children who stay home longer or for their aging parents, that could change the equation. Major cuts to Social Security, Medicare, or Medicaid, which were important for our results, would also have a large impact.

“What is needed to maintain living standards during retirement is something that households can do. Moreover, thinking purposefully about what you want in retirement can help you see whether you need to accumulate more. These

TRANSFORMING AMERICAN FINANCIAL SECURITY

findings could reduce anxiety and enable people to enjoy what they've saved. I hate the idea of people forsaking things that can be lifelong memories because they're so frightened about this abstract notion of running out of money.

"I view receiving this award as an extraordinary honor, probably the highest honor I have received during my career. It has been hugely meaningful to me, largely because I love the paper I got to write with my colleagues."

Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism

Princeton University Press, 2009

George A. Akerlof
University of California, Berkeley

Robert J. Shiller
Yale University

WINNING BOOK: 2009

OVERVIEW

Published in the wake of the global financial crisis, this book challenges the idea that downturns are caused solely by policy mistakes or external shocks. Instead, the authors build on John Maynard Keynes' description of the "animal spirits" that drive economic behavior to develop a broader theory of how human emotions help explain market bubbles, persistent unemployment, and more.

How human emotions drive markets and shape the economy

In their influential 2009 book *Animal Spirits*, economists George A. Akerlof and Robert J. Shiller stepped away from the cool abstraction of traditional economics. Instead of assuming that people act rationally and markets function with mechanical precision, they argued that psychology plays a central role in shaping the economy. Building on John Maynard Keynes' description of the unpredictable emotions that drive financial behavior, the authors identified five factors that influence economic decisions: confidence, fairness, corruption and bad faith, money illusion, and storytelling.

In this conversation with David P. Richardson, head of research at the TIAA Institute, Akerlof, winner of the Nobel Prize in Economics in 2001 and now a university professor at Georgetown's McCourt School of Public Policy, discusses the ideas behind the book, the role of government in counterbalancing animal spirits, and the people and events that have influenced his thinking.

The following comments on the book have been edited for clarity.

“**T**his book is our version of what macroeconomics should look like, and it's rather different from what's in the standard macro textbooks. One of the things that both Bob and I believe is that what affects things are the stories people tell. Standard economics assumes people think as if they were economists. That's not sufficiently expansive.

“What happens in the economy depends on what people are thinking about—like what the price of a stock or a home should be—and what they really care about. People not only have beliefs about how the world should be; they also have beliefs about how the world is, and those views are not necessarily correct.”

Many of these animal spirits, including a tendency to interpret economic events through stories, played out during the 2008 financial crisis. The beliefs that housing prices would always rise or that technology stocks could never fall were central drivers of speculative bubbles. Another factor identified by Akerlof and Shiller was on vivid display during this time: confidence. During a boom, rising asset prices make people feel secure and optimistic, which leads them to invest more, borrow more, and spend more, pushing prices even higher. The reverse happens in a downturn. Fear spreads quickly and reinforces itself, even when the underlying facts have not changed much.

“One of the things that we wanted to do with the book was to get people to realize that because of these animal spirits, the system could become fragile. And that's something to worry about.

“Before the financial crisis, it was easy to make a profit on all these mortgage-backed securities. It's amazing the number

of large financial institutions that were involved in that, and not one of them realized that this was fragile. Economists should have done a better job of predicting the crash, though a few like Andrei Shleifer knew exactly why it was going to happen.”

Animal Spirits is also a call to rethink how we govern economies. Left to themselves, markets do not always recover. Confidence can collapse overnight, stories can shift suddenly, and fear can catch fire fast. In such situations, government action is essential, Akerlof argues, not as a rigid controller but as a stabilizing force.

“We understand the economy better now than people did in the 1930s. In the 1930s, they just wanted to let things go and see what happened. They did that, and the world really did not fare well. Without sufficient regulation, the types of things that happened back then can happen again.

“The cheapest thing to do when you have a crash like we had in 2008 is to bail out companies because you need to have an equilibrium, which can become very unstable. Ben Bernanke and Hank Paulson are my heroes because they did exactly the right thing at the time, and we didn’t have a repeat of the 1930s.

“Ensuring that financial institutions are safe, that they’re not making decisions that will only benefit them, should be a major role of government. Regulating financial institutions is going to help everybody who is saving for retirement. When you’re protecting people from a crash, you’re protecting people from bad animal spirits.”

Akerlof studied for his PhD at MIT, where his thesis advisor was economist and frequent Samuelson collaborator Robert Solow, who went on to win the Nobel Prize in Economics in 1987.

“At MIT, Samuelson and Solow really cared about their students. They got to know them well and spent a lot of time with them. It was a very nice environment to be in. When I won the Samuelson Award, I liked the idea that it was named for Samuelson.

“I’ve been thinking about what influence Samuelson had on me. Ever since I was very young, I’ve been a Keynesian economist. When I went to MIT, my view was that I wasn’t going to make any significant contributions to economics since, at the time, I thought Keynesian economics was exactly right. Looking back now, I see that Samuelson, who invented what’s known as the Keynesian Cross, expressed the Keynesian ideas in a clearer way than anyone else.

“My father lost his job when I was eleven years old. The major lesson from Keynes is that you can get into a bad situation, such as what occurred in the 1930s—or has occurred in much milder ways since then—and the government can intervene by doing the spending that otherwise would have been done by families like mine. Once I understood that, I had the insight that I should have had when I was 11 and wondering what would happen if other fathers lost their jobs and wouldn’t have money to spend.”

“Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark”

The Quarterly Journal of Economics, 2014

Raj Chetty

Stanford University and NBER

John N. Friedman

Brown University and NBER

Søren Leth-Petersen

University of Copenhagen and CEPR

Torben Heien Nielsen

University of Copenhagen

Tore Olsen

University of Copenhagen and NBER

WINNING PAPER: 2015

OVERVIEW

In this analysis of large-scale retirement savings data from Denmark, the authors shed light on the question of which policy is more effective at driving higher levels of saving: automatically enrolling workers into retirement plans or providing subsidies or tax incentives to induce them to save.

The two types of retirement savers—and why the difference matters

The question of which policies best promote retirement savings and wealth accumulation has been a focal point of public finance for decades. In this conversation with Brent J. Davis, a senior economist at the TIAA Institute, John N. Friedman, dean at the Thomas J. Watson Jr. School of International and Public Affairs and a professor of economics and international and public affairs at Brown University, discusses what he and his co-authors learned about the effectiveness of defaulting savers into retirement plans versus providing incentives, how there are two types of retirement savers, and what that distinction could mean for retirement plan design.

The following comments on the paper have been edited for clarity.

“**A**t the time our team started to think about these questions, there were a number of policy debates happening. One involved the effects of tax incentives on retirement savings. The Tax Reform Act

of 1986 had opened a lot of possibilities for tax-incentivized retirement plans. The idea is straightforward. If you get a tax incentive for contributing to your employer’s retirement plan, you’ll do more of that. It seems intuitive, but under the hood, it’s a bit more complicated. There’s literature on how tax incentives influence retirement savings going back to the 1990s.

“A second, more recent strand, starting with Brigitte Madrian and Dennis Shea in 2001,¹ focuses on the power of defaults, or behaviorally based interventions that seem to have dramatic effects on pension contributions. The premise is, if instead of telling workers, ‘If you want to contribute to your retirement plan, fill out this form,’ we say, ‘We’re going to assume that you want to save, let’s say, 3 percent of your salary in our retirement plan, and you can opt out at any time,’ that would increase the number of people participating. I see our paper as coming at the confluence of these two strands of the literature.”

Previous scholars studying these issues were often constricted by the limited data available at the time, Friedman notes. To look at the effects of both automatic enrollment and tax-incentivized savings, the researchers worked with newly available data sets that included forty-one million observations on savings in both retirement and non-retirement accounts by the population of Denmark, which has a similar system to the US in that different tax-incentivized savings accounts are available.

“The first part of our paper looks at automatic enrollment, or default policies, and the second part looks at tax-incentivized savings. Our hope was that having this new empirical power

would help us resolve this long-standing debate over these two approaches.

“Study after study showed the power of automatic enrollment to get employees participating in their company’s retirement savings plan. What wasn’t clear was how that was squaring with the rest of their budget. Were they saving less in other places, consuming less, running up a larger credit card bill? We found that when automatic enrollment increases contributions to retirement accounts, it also leads to a broad increase in overall savings. People are accumulating more wealth.

“Because Denmark had a policy change in the middle of our sample period that increased the tax benefit of saving in a particular type of retirement account, we were able to show that some people did respond to the change. However, they were essentially shifting their savings from one account to another. So, the increases in savings due to the tax incentives were entirely offset by reductions in savings in other accounts.

“The question is, why are we getting this broad effect with one approach and essentially a washout effect with the other?”

As Friedman and his co-authors dug more deeply into the data, they concluded that savers fall into one of two broad categories: active and passive. And that personality difference helps explain why automatic enrollment generally increases wealth while tax incentives do not.

“We found that about 15 percent of people are what we called active savers. They tend to have higher incomes and more savings, and they’re paying attention. They’re responding when tax incentives change. But that means moving savings from one account to another, not saving more. The remaining 85 percent are the more passive savers. They’re not really paying attention to changes in tax incentives or employer contributions. If either increase, these savers are not reducing their savings elsewhere.

“This helps us understand why different policies generate different results and which might be more effective. Our paper really comes down on the side of default policies, not just because they appear to be more effective in increasing overall savings, but because they seem to be targeting exactly the type of people we might be most concerned about not saving enough.”

Today, US businesses with more than ten employees must implement automatic enrollment in 401(k) or 403(b) retirement plans established after December 29, 2022, with a minimum contribution rate of 3 percent of pay. This provision—part of the SECURE 2.0 Act—also requires annual auto-increases of at least 1 percent until reaching 10 to 15 percent of pay, unless an employee opts out. Already, auto-enrollment had reached 47 percent of all plans, indicating a growing embrace of this feature.²

“More recent literature has added a lot of nuances in understanding how this large group of passive savers is interacting with the retirement system—and how we can construct a broader ecosystem around a model where

people aren't on top of things. The ease with which you can withdraw money from retirement accounts before retirement is another aspect of this. There's been some great work by other TIAA Samuelson Award winners who are fleshing this out. And I think our paper was helpful in putting some wind in the sails in moving things forward."

¹ Brigitte C. Madrian and Dennis F. Shea, "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior," *The Quarterly Journal of Economics* 116, no. 4 (November 2001): 1149-1187.

² PLANSPONSOR, "2025 DC Survey: Plan Benchmarking," January 7, 2025.

"Tax Uncertainty and Retirement Savings Diversification"

Journal of Financial Economics, 2017

David C. Brown

University of Arizona

Scott Cederburg

University of Arizona

Michael S. O'Doherty

University of Missouri

WINNING PAPER: 2018

OVERVIEW

A key decision retirement savers face is when to pay taxes on their savings. With a traditional 401(k) and IRA, contributions are pre-tax, and withdrawals are taxable. A Roth account is funded with post-tax dollars but offers tax-free withdrawals in retirement. This paper explores that trade-off.

Rethinking the conventional wisdom on Roth retirement accounts

The shift from defined benefit pensions to defined contribution retirement plans has put the onus on individuals to tackle a host of questions about how to prepare for the future, including whether to save in a traditional or Roth account. In a conversation with David P. Richardson, head of research at the TIAA Institute, Michael S. O’Doherty, professor of finance at the University of Missouri, explains how he and his fellow researchers approached this question and what they found.

The following comments on the paper have been edited for clarity.

“**W**hen you’re saving for retirement, what’s the right mix of traditional pre-tax 401(k)s and IRAs and post-tax Roth accounts? This question came up in conversations I was having with my co-authors—Scott Cederburg and David Brown—about how we should invest our own retirement contributions. A lot of

families need to be thinking about the same things we were contemplating. They must pick the right mix of stocks and bonds—and decide what retirement savings vehicle to put those assets in, what we call asset location.

“There is a tremendous amount of uncertainty to consider. How are stocks and bonds going to perform over a retirement savings horizon of twenty, thirty, forty years or more? How are taxes going to change during the same period? The academic literature didn’t seem to provide sufficient answers.

“The conventional advice would say that if you’re choosing between a traditional IRA or 401(k) and a Roth account, what you want to think about is your marginal tax rate today or maybe your level of income. And how does that compare with your expected tax rate or your expected level of income when you’re making withdrawals in retirement? That’s pretty tough to predict. The progressive tax schedule that investors are looking at when they are making retirement savings decisions may look very different from what they will be looking at when they are taking distributions.”

In fact, over the past forty years, the top federal income tax rate—currently 37 percent—has ranged from 28 percent to 50 percent, and the number of tax brackets has been as low as two and as high as fifteen.¹ Digging into historical US stock and bond returns and historical marginal tax rates, this research sought to formalize that uncertainty into a model.

“The big finding from our research was that Roth vehicles have a large advantage in terms of mitigating tax uncertainty and risk. If you think the tax code might change considerably,

it makes sense to lock in a known tax rate today. That way, you pay the taxes, make the contributions, and don't have to worry about policy changes. For most households, the right allocation involves diversifying across Roth and traditional vehicles. This goes against the conventional thinking, which was basically that households should choose one vehicle or the other.”

The standard advice for when to contribute to a Roth account—or convert a traditional IRA to a Roth IRA—has been to do so when your marginal tax rate is low, perhaps early in your career. Higher-income households, on the other hand, should probably avoid Roth investments because there's no sense in paying a high tax rate today.

“Another nice result was that this finding applies to high-income households, too. Our analysis of the historical record suggested that those high-income households actually face more uncertainty than any other income level in terms of what marginal tax rates might look like in the future. Some allocation to Roth investment vehicles makes sense for them.

“During the review process for the paper, we came up with a simple rule to help simplify this complex scenario. If you're in one of the lower marginal tax brackets, Roth investments probably make more sense. For everyone else, a useful rule of thumb might be that the percentage to allocate to a traditional account is your age plus twenty, and the rest in a Roth. I think that heuristic makes our findings more accessible.”

Since eligibility to fund a Roth IRA is subject to income caps, the introduction of Roth 401(k)s in 2006 made Roths more widely

available. What's more, workplace Roth accounts have a higher contribution limit than a Roth IRA does (\$24,500 versus \$7,500 in 2026), enabling savers to lock in more tax-free retirement income. At the time this paper was being written, 56 percent of 401(k) plans had a designated Roth option. Today, that portion is 86 percent.²

“I would hope that this research would be useful for regulators and plan sponsors who are designing workplace retirement plans. For a lot of households—perhaps a substantially larger portion than we previously thought—there are huge economic gains to having access to a designated Roth option in your retirement account.

“We were surprised that we had won the Samuelson Award—and excited and humbled, especially since, in a lot of ways, this paper was different from the research we had done in our careers up to that point. And in fact, the experience we had in winning the award gave us a calling to do more research in this spirit. We have since looked for topics that will have an impact on actual households and retirement savings—topics that will have welfare implications for society and retirement savers at large. As academics, teachers, and researchers, we are just trying to push things in the right direction.”

¹ Tax Foundation, “Historical U.S. Federal Individual Income Tax Rates & Brackets, 1862–2021,” August 24, 2021.

² Vanguard, “How America Saves 2025,” April 2025.

“Health Insurance Design Meets Saving Incentives: Consumer Responses to Complex Contracts”

American Economic Journal: Applied Economics, 2022

Adam Leive

University of California, Berkeley

WINNING PAPER: 2022

OVERVIEW

Health savings accounts (HSAs), when paired with high-deductible health plans, were designed to make employees more cost-conscious, reducing overall medical spending. But as this paper finds, despite this type of account’s valuable tax benefits, most people do not use HSAs optimally.

The untapped potential of health savings accounts

When Adam Leive, assistant professor of public policy, University of California, Berkeley, was working on his PhD in health economics, he became interested in health savings accounts (HSAs). Then a relatively new type of insurance, HSAs stood out for their triple tax benefits: tax-free contributions, tax-free growth, and tax-free withdrawals for medical costs. As Leive tells Brent J. Davis, a senior economist at the TIAA Institute, what he wanted to study was how people should be using HSAs—and how people truly use them in practice.

The following comments on the paper have been edited for clarity.

“People can leave their savings in an HSA to fund healthcare spending in retirement, or they can pull money out to pay current costs. In that way, HSAs form a bridge between health insurance and retirement plans, which has relevance for financial security.

“A theoretical model would suggest that the optimal strategy is to use your HSA as a retirement account, rather than spending that money on short-term medical costs. That’s because the tax benefits are so great. But there was little research on how people were actually using these accounts. So I decided to take a deep dive into the economics of HSAs.”

Created as part of the 2003 legislation that established a Medicare prescription drug benefit, HSAs have grown in popularity. Today, more than 50 percent of large firms that offer employees health insurance include a high-deductible plan paired with an HSA.¹ To study how employees make decisions about their HSAs, Leive collected four years of usage data from a major company. Because the company deposited funds into employees’ HSAs based on their salaries, Leive was able to compare how similar people behaved when given different amounts of HSA funds.

“For every extra dollar deposited into their HSA, I could see how much came out in the short term and how much was left to grow. I found that eighty-five cents of each dollar contributed to these accounts was withdrawn every year. That’s a very high rate compared to how much people withdraw when they receive raises or bonuses or other stimulus payments. It was a strong refutation of the theoretical model.

“What I found is that people should really be using their HSA to save for retirement, unless they don’t have another way to pay for medical care. That’s something a lot of people didn’t quite appreciate before. Many employees think of HSAs simply as a tool to cover their deductible. But the tax benefits

are so great that you're better off paying for medical care out of pocket and letting your HSA money grow. You might even be better off contributing to your HSA for retirement before you contribute to your 401(k). My study also did not find that HSAs reduced healthcare spending. Instead, HSA funding increased the share of healthcare spending that is financed through tax subsidies.”

Recent research confirms that employees continue to treat HSAs as short-term savings accounts rather than long-term investment accounts. A 2025 survey of employers found that while two-thirds of the companies provide investment options in their HSAs, only 20 percent of participants invest their balances.²

“My findings suggest that you can design a health insurance product that might seem great on paper, but when it comes to putting it into practice, people face real barriers to making the right decisions. There may be psychological issues—some people may simply be averse to paying deductibles. There are also liquidity constraints, with employees facing car repairs or other needs. People need information, yet don't know where to search or are simply too busy to look.

“My study suggests that there are improvements that could be made in terms of savings and withdrawal decisions, perhaps by linking HSAs with other types of retirement accounts. But to figure out what to do, we would need to conduct rigorous testing with employer field experiments.

“Taking things a step further, we also need to think about whether we should have HSAs at all. No other financial

product enjoys such generous tax incentives. And the biggest benefits are going to high-income people, who can pay for healthcare out of pocket. We need to ask, what is the true incidence of these accounts in terms of who's ultimately paying for them and who's benefiting from them? That's an important question that academics can provide input on.

“With its health insurance focus, my article was not exactly typical for a Samuelson Award. But I thought it offered a nice complement to the topic of financial security, so I submitted it. My reaction to winning was shocked disbelief. It's been the highlight of my career so far, without a doubt, just having my name alongside the previous winners that I've really admired. I was overjoyed and humbled.”

¹ KFF, “2025 Employer Health Benefits Survey,” October 2025.

² Plan Sponsor Council of America, “2025 HSA Survey,” September 2025.

“Efficiency in Household Decision-Making: Evidence from the Retirement Savings of US Couples”

American Economic Review, 2025

Taha Choukhmane

Massachusetts Institute of Technology Sloan School of Management

Lucas Goodman

US Department of the Treasury

Cormac O’Dea

Yale University

WINNING PAPER: 2025

OVERVIEW

Many economic models treat households as entities that make financial decisions in an efficient manner. In this study, the authors test the efficiency of married couples’ retirement saving choices by looking at the extent to which they maximize the total amount of employer match they receive given their chosen retirement saving contributions.

The costly decision that can shortchange a couple's retirement wealth

In this conversation with Andrew Gellert, an economist at the TIAA Institute, Cormac O'Dea, an assistant professor of economics at Yale University, discusses what he and co-authors Taha Choukhmane and Lucas Goodman found when they looked at whether couples allocate their retirement plan contributions efficiently—and what those findings says about household financial decision-making.

The following comments on the paper have been edited for clarity.

“**T**here's a large body of literature on how couples make their economic decisions. One model that economists have used for a long time is the unitary household model, which treats a household like an individual. In this model, all the objectives align, and you try to find the best outcome for the household. Another prominent model is the collective household model, which recognizes that spouses might have different objectives. But a core assumption in both models is that couples make decisions

that create the biggest 'pie' possible. Crucially, if there is an arbitrage opportunity for spouses, they cooperate to take advantage of it.

“In the context of retirement savings, we had a suspicion that couples might be leaving money on the table to the detriment of their long-term financial health, and we thought that the 401(k) matching contribution system gave us a very natural laboratory to investigate this.”

The researchers compiled data covering more than one million US adults, drawing from defined contribution plan regulatory filings and administrative records on employees' saving behavior, including tax returns and W-2 forms. By analyzing employer match formulas and retirement plan contributions, they were able to determine the maximum achievable employer match for each couple and compare that to what they were saving, both individually and collectively.

“A couple could put all the money in one spouse's account or the other, or they could do half and half, or some other split. There are plenty of possible divisions of their pool of retirement savings, and because match formulas differ, not all combinations produce the same total match. We used the data to calculate, for a couple acting exactly like our models, what is the most they could get?”

“We think that about 20 percent of couples essentially have an arbitrage opportunity that they're not exploiting. This ends up being costly—the average loss is \$750 a year. This result does not mean the other 80 percent are actively coordinating. They might not have an opportunity to, for example, if both are

saving well above their match. We find evidence of cooperation among some couples. But we find a whole lot of them are not cooperating.

“Collecting the biggest match in this context is not a matter of changing how much you spend, how often you go to a restaurant, or whether you go on vacation. You save the exact same amount. The only difference is where you’re doing the saving.”

To dig into the reasons for non-coordination, the researchers conducted an online survey that asked married couples to make hypothetical allocations to retirement accounts, with different hypothetical match rates for each spouse’s account. For those that did not maximize the match, the researchers followed up with questions designed to discern whether the decision was deliberate or accidental.

“One explanation is that this is a complicated decision and couples struggle to optimize. Another explanation is that people choose to not cooperate. Our survey shows that it’s actually a mix of both. Around half seems to be accidental. The nice thing about the survey was that we could get into people’s heads. We could present them with a hypothetical, ask them to make a choice, and then, in real time, give them feedback and allow them to change their choice. Choosing to change their choice was a key marker of an ‘accidental’ foregone match. It turns out many people don’t realize that there are gains from simply sitting down and talking with your spouse about coordinating your retirement saving.

“But for the other half, once you explain that they’re leaving

money on the table, some still say things like, ‘No, I don’t want to change my answer, because I don’t trust my spouse,’ or ‘I like having control.’ The degree of commitment may be a factor. Couples that have been together for a long time, have kids together, or who had a joint bank account before getting married are less likely to leave money on the table, whereas couples that are on the verge of divorce—those we observe being divorced three years later—are more likely to leave money on the table.”

Choukhmane, Goodman, and O’Dea estimate that over a life cycle, non-coordination can lower wealth at retirement by an average of about \$14,000. Given the potential benefit, could plan sponsors and advisors do more to encourage couples to coordinate?

“What I take away from this research is that many people look at their 401(k) and don’t consider a household dimension. They think, ‘This is my job, my retirement account.’ And plan tools often don’t bring the household in. With employer benefits, we’ve framed healthcare as a household decision, but we often frame retirement planning as an individual decision.

“The matching formula is such an important part of plan design and long-term financial security. Compared to other areas of plan design, there hasn’t been as much innovation. If you have a pot of money, how should you design your matching formula? How can we make this work more efficiently in terms of helping people achieve financial security? Are there product features that could help people feel more comfortable about coordinating?”

“All of this points to the idea that there isn’t one model of households. Couples are different, and the frictions they face are different. Where we see our paper coming in, and hopefully where I see the literature going, is acknowledging that there are different types of couples with different modes of decision-making. We should try to understand that more.

“Winning the Samuelson Award was a real delight. You see all the people whose work we’ve learned from who’ve won it, and that’s a tribute to how the TIAA Institute pulls together frontier academic research that has immediate relevance for the financial well-being of households. It’s a real privilege that our paper was considered part of that.”

2

Retirement Income Security and Insurance

Bridging Theory and Practice

The intersection of retirement planning, longevity risk, and insurance markets represents an important frontier in financial security research.

As Americans live longer and bear greater responsibility for managing their financial futures, the award-winning works in this section have revolutionized our understanding of retirement income systems and the complex interplay between public and private insurance markets.

Generating retirement income from accumulated savings is difficult because remaining lifespan is uncertain. Individuals can insure against this longevity risk by buying a life annuity, converting an accumulated balance into a stream of periodic income for life. This method of insuring against longevity risk is backed by traditional economic theory, but most people do not purchase life annuities, leading to the “annuity puzzle.”

Three pioneering winning studies shed light on our understanding of this puzzle. In their 2012 paper, “How Do Retirees Value Life Annuities? Evidence from Public Employees,” John Chalmers and Jonathan Reuter examined both rational and behavioral factors. Perhaps surprisingly, they found that retirees react little to annuity price changes but are more responsive to anticipated life expectancy and recent equity market performance—the latter of which is uncorrelated to longevity risk. In 2015, Felix Reichling and Kent Smetters built on the individual health component, finding that correlated medical costs and stochastic mortality dramatically alter theoretical annuity choice predictions.

Bequest motives, or wanting to leave an inheritance to heirs,

can also influence annuity and long-term care insurance decisions. In 2018, Lee Lockwood found that retirees often have higher savings and fewer annuities than predicted, contradicting standard life cycle models. What reconciles these findings is the theory that many retirees rationally choose to bear late-life financial risks because they value the possibility of leaving wealth to heirs. These biases can help explain observed behavior and improve financial planning.

Two other papers explored how tax incentives and the structure of the insurance marketplace can influence late-in-life insurance choices. The interaction between public and private insurance systems was brilliantly illuminated by Jeffrey Brown and Amy Finkelstein’s seminal 2008 work on long-term care insurance (LTCI). Their innovative research revealed how Medicaid is an implicit tax on private insurance, crowding out LTCI demand even among upper-income individuals. This research helps explain why the private long-term care insurance market remains underdeveloped.

Ralph Koijen and Stijn Van Nieuwerburgh’s groundbreaking 2020 research identified the untapped complementarity between life and health insurance. By demonstrating how life insurers experience substantial benefits from life-extending medical treatments in their paper “Combining Life and Health Insurance,” they revealed inefficiencies created by traditional insurance market separation. Their work suggests innovative product designs that could improve access to life-extending treatments while creating a virtuous cycle of increased insurance participation and medical innovation.

TRANSFORMING AMERICAN FINANCIAL SECURITY

As households face late-life risks, evolving labor markets, and continuing innovations in financial products, the insights from these award-winning contributions provide essential guidance for enhancing retirement income security, insurance options, and the market for coverage. By illuminating the complex interplay between individual decision-making, public and private market structures, and policy design, this research offers critical direction for scholars, policymakers, and financial professionals working to improve financial security throughout retirement.

David P. Richardson

Head of Research at the TIAA Institute

“The Interaction of Public and Private Insurance: Medicaid and the Long-Term Care Insurance Market”

American Economic Review, 2008

Jeffrey R. Brown

University of Illinois at Urbana-Champaign

Amy Finkelstein

Massachusetts Institute of Technology

WINNING PAPER: 2008

OVERVIEW

Long-term care insurance is designed to protect individuals from the potentially high costs of care as they age. Yet few buy one of these policies. This paper examines the role that public insurance, in the form of Medicaid, may play in the decision to forgo coverage.

The public policy that makes long-term care insurance less appealing

Despite a significant risk of needing long-term care late in life, only an estimated 3 to 4 percent of Americans over age fifty have private long-term care insurance to help defray the potential costs.¹ In this conversation with David P. Richardson, head of research at the TIAA Institute, Jeffrey R. Brown, dean emeritus and professor of finance at the University of Illinois Gies College of Business, discusses what he and co-author Amy Finkelstein learned about low insurance uptake and the role public benefits may play in the decision to purchase a private policy.

The following comments on the paper have been edited for clarity.

“**P**rior to writing this paper, Amy and I had researched how people protect themselves against the risk of running out of money late in life. Though we’d focused mainly on annuity markets, one risk that kept coming up was unexpected medical expenses—most significantly, the need for long-term care. Our first thought was, well, that’s what long-term care insurance is for. Yet

while something like 40 percent of people age sixty-five will spend time in a nursing home before they die,² long-term care insurance was a comparatively tiny market. That led to the question: Why do so few people buy it?

“At first, we approached long-term care insurance similarly to our work on annuities, looking mainly at data related to pricing and utilization. But we quickly realized we needed to model for the impact of Medicaid. Mark Pauly at the University of Pennsylvania had written a theoretical paper about the possibility that Medicaid might be crowding out private insurance, but nobody had applied data to that idea. When we did so, we were struck by the results. For a big segment of the population, not buying a private long-term care policy was a perfectly rational decision, given the way Medicaid works.”

Medicaid is the number one funder of long-term care, accounting for 61 percent of total spending on nursing home costs in the US.³ This public source of funding creates what Brown and Finkelstein call an “implicit tax” on private insurance policies. Because Medicaid is a secondary payer, any private policy must cover long-term care costs before Medicaid kicks in. By purchasing coverage, policyholders are paying for a benefit they are already entitled to. Plus, having a long-term care policy makes it less likely a person will qualify for Medicaid.

“Take two individuals who are the same age, one with and one without a long-term care policy, both of whom end up needing nursing home care for ten years. The person without insurance starts getting Medicaid at the end of year one after meeting state asset spend-down rules. From then on, they’re

covered. Now, take the person who has a private policy, one that covers them fully for several years. Once that runs out, they, too, must pay out of pocket until they qualify for Medicaid. Let's say that happens in year seven.

“Essentially, both patients wind up in the same economic condition at the end. The difference is that one person paid years of premiums, and a big fraction of the benefits they paid for are duplicating what they would have gotten for free. They've transferred the liability from Medicaid to the private insurance system but did not do much to improve their own well-being. That's what makes this such a difficult problem to solve.

“The population most affected by this is the middle class. People at the bottom of the wealth distribution don't have much in the way of savings, so spending down assets is not an additional burden. For the wealthy, if they don't insure, it's a question of the amount they'll leave in their estate. It's the folks in the middle who have managed to put together a retirement nest egg for whom an extended stay in long-term care could wreck their financial situation. And the person who is probably most hurt by that is the surviving spouse.”

Brown notes that little has fundamentally changed to address the issues he and Finkelstein described nearly twenty years ago, and market innovations appear unlikely to solve the whole problem.

“On the public policy and market sides, we haven't made much progress on long-term care. The policy and regulatory framework in which we're operating is largely the same as it was back when we wrote the paper. One way to eliminate the

problem of overlapping services might be to have Medicaid or another government program cover catastrophic needs for people at all income and wealth levels. Say, for example, Medicaid pays all my costs after three years in a nursing home. In that case, I could go to the private market and say, 'I want to fill the gap until Medicaid kicks in.' The private market could do that without duplicating those services. By buying a private policy, an individual could protect their savings, since they wouldn't have to spend down to qualify for government assistance.

“What makes this solution difficult, politically speaking, is that you'd have to make everyone, including the wealthy, eligible for this program. Implementing a means test would take you right back to the original problem. Another hurdle to reform is that Medicare and Social Security are already underfunded. I don't see a big appetite for yet another extension of a major entitlement program.

“When the Samuelson Award was announced, I was ecstatic. Amy and I were both still relatively early in our careers. It's always nice to be recognized, and especially nice when it's an award with a track record of recognizing high-quality work. To this day, it's one of the most prestigious distinctions an economist can receive.”

¹ LIMRA, “LIMRA: Five Reasons to Discuss Long-Term Care Insurance Options With Your Clients,” November 7, 2024.

² Donald Taylor Jr. et al., “Do Seniors Understand Their Risk of Moving to a Nursing Home?” *Health Services Research* 40, no. 3 (June 2005): 811–828.

³ KFF, “10 things to know about Medicaid,” February 18, 2025.

“How Do Retirees Value Life Annuities? Evidence From Public Employees”

The Review of Financial Studies, 2012

John Chalmers

Lundquist College of Business, University of Oregon

Jonathan Reuter

Carroll School of Management at Boston College and NBER

WINNING PAPER: 2013

OVERVIEW

To study what goes into the decision of whether to annuitize retirement savings, the authors looked at what option tens of thousands of public employees selected when faced with the choice of a life annuity or a lump sum at retirement, revealing that factors other than annuity pricing appear to be the main drivers of demand.

What drives the decision to annuitize retirement savings

Despite the appeal of guaranteed lifetime income, few retirees opt to purchase an income annuity. In this conversation with Brent J. Davis, a senior economist at the TIAA Institute, Jonathan Reuter, associate professor of management, Boston College, Carroll School of Management, talks about how he and his co-author used real-world data on retiree behavior in one public employee retirement system to explore what influences the decision to annuitize—or not.

The following comments on the paper have been edited for clarity.

“**T**he backdrop to our research is that economists have long argued that life annuities made a lot of sense. A financial product that pays you benefits until you die essentially insures against outliving your resources. Yet the literature finds that demand for life annuities is quite low. If you look in the private market, people tend not to buy life annuities when they retire. This disparity, known as

the annuity puzzle, was something that my colleague John Chalmers and I wanted to better understand.

“We chose to study what demand for life annuities looked like among Oregon public employees because we had really good data on the choices they faced when they retired, which was between receiving all of their retirement benefits as a life annuity, receiving a lump sum that they could do with whatever they wanted, or, let’s say, taking half as a life annuity and the rest as this lump sum.”

Looking at data from 32,060 retirements in Oregon’s Public Employees Retirement System (PERS) between January 1990 and June 2002, the researchers found that 85 percent of PERS retirees opted to fully annuitize their savings.

“In Oregon, as in many public pension plans, the way the benefit formula was calculated essentially guaranteed that it was better than actuarially fair, meaning that you would basically be giving up money by taking the cash. But—and this was important—how generous it was changed over time because the benefit formula was set, but interest rates in the marketplace moved around.

“Since the benefits you could buy in the marketplace changed, whereas the benefits you got from Oregon were fixed, we were able to ask, ‘Do public employees understand when their benefits are relatively generous?’ And the answer was basically no. Demand for the lump sum didn’t decrease when the annuity choice was especially favorable. We don’t know the extent to which the annuity being a good deal is driving the high demand. It may just be that it’s easy to take a full

life annuity in this setting, or retirees are relying on a rule of thumb from their union.”

So why were the remaining 15 percent not annuitizing? Chalmers and Reuter’s analysis shed light on other factors that may go into the decision, including expectations for how well the stock market will perform and how long the retiree can expect to live.

“When you have a financial product that’s better than actuarially fair, unless you have strong private information about your health, you really should be thinking about fully annuitizing. We found that one of the most important sources of not doing that was recent stock market returns. When the stock market had gone up over the last year, people were much more likely to take cash. When the stock market had gone down, they were much less likely to take cash. Our interpretation is that people see the market going up, think that if they’d had the cash, they could have made a big return, and take the lump sum. The fact that people would chase equity returns is a little bit troubling.

“Another high-level observation has to do with adverse selection. In the annuity market, because you’re selling someone a product that gives them cash until they die, what you worry about is that only healthy people buy it. We had data on when people in our sample died going out for about four years, so we could look at how much people seemed to know about their life expectancy at the time they made this decision. What we found was that people who died within about two years of retirement seemed to have a strong

preference for the cash. But for people who died after two years, there was no ability to predict their payment choice. To the extent that people have private information about life expectancy, at least in our sample, that seems to be about two years.”

Given increased longevity and the value of annuities in ensuring that a retiree doesn’t run out of money, encouraging retirement plan sponsors to offer annuities within plans has garnered increased attention. The SECURE Act and SECURE 2.0 supported including annuities in 401(k) plans by offering protections for plan sponsors.

“In our sample, participants had to make an active choice to be fully annuitized, and despite that, 85 percent did. It led us to conjecture that if plan sponsors made it easier to annuitize, that would drive up demand. There have been innovations in terms of what’s permissible in retirement plans, and people are moving in the direction of helping with the decumulation part. I think embedding life annuities in target-date funds or making them an easy thing to add on when you’re thinking about how to manage your assets at retirement are both important.

“It was a huge honor to receive the Samuelson Award. I was not tenured yet, so it was a feather in my cap. When you’re in a finance department, sometimes studying how individuals make financial decisions is not considered as interesting as what asset managers or corporations do. So it was nice to get an award that highlighted why it’s important to study individuals. I’m immensely grateful.”

“Optimal Annuitization with Stochastic Mortality and Correlated Medical Costs”

American Economic Review, 2015

Felix Reichling

Congressional Budget Office

Kent Smetters

The Wharton School of the University of Pennsylvania

WINNING PAPER: 2016

OVERVIEW

Annuities that provide lifetime income can help retirees hedge against longevity risk, but most people don't buy them. The authors of this paper delve into whether households should annuitize their retirement savings in the first place, given the risks of uninsured health shocks late in life.

Why income annuities are not always the optimal choice

For decades, the conventional wisdom surrounding income annuities has come down in favor of fully annuitizing retirement savings, thus producing a guaranteed stream of lifelong income. But several factors complicate that equation, says Kent Smetters, Boettner Chair Professor at the University of Pennsylvania's Wharton School. In this conversation with David P. Richardson, head of research at the TIAA Institute, Smetters talks about how he and co-author Felix Reichling decided to test that assumption and what their research revealed.

The following comments on the paper have been edited for clarity.

“**T**o some degree, the idea that people should annuitize all their assets in retirement makes sense. The beauty of an annuity is that even though you don't know when you're going to die, it doesn't matter—because in return for giving up your assets, the insurance

company providing the annuity guarantees income for as long as you live. So having an annuity basically allows you to spend down your assets. And if you don't have a bequest motive—if you don't hope to leave some of your wealth to heirs—you should want to take advantage of the assets you've saved by spending them down.

“Yet most people don't annuitize, and the reasons why have been a mystery for the longest time. We don't think that a bequest motive is strong enough to explain why so few assets are annuitized. That analysis is complicated by the fact that bequests can be accidental. People who have held onto assets to hedge against health risks or for another reason may die early. The assets they leave behind may look like a bequest for statistical purposes, but it's not an intentional one. For the most part, true bequest motives are concentrated in higher-income households.

“People also may be resistant to annuities because they think, ‘What if I need the money?’ and some are also resistant because they worked hard for their money and aren't comfortable giving it up to an insurance company and hoping they stay in business. I'm sure there are lots of motivations behind not annuitizing. What we decided to explore was what is actually optimal. Is it really 100 percent of people who *should* annuitize?”

In a Center for Retirement Research at Boston College survey of near-retirees and retirees with at least \$100,000 in investable assets, just 12 percent of respondents said they had purchased an annuity.¹ But omitting an annuity might not have been the

wrong decision for many of these households. In analyzing what's optimal, Smetters and Reichling conclude that between 64 and 76 percent of households should not annuitize any wealth.

“The paper is basically saying, no, it's not 100 percent of people who should annuitize, and that's because of uninsurable shocks. The value of an annuity changes with the state of your health. As you get older, you're likely to become sicker, and as your life expectancy goes down, an annuity that provides lifetime income becomes less valuable.

“Suppose you had some type of medical expense or some other need along the way. The annuity has value, and you should be able to sell it at that point to get that extra money. But what we showed was that just when you need assets because of a health shock, the value of the annuity has gone down. But if you held some assets that were not in the form of an annuity, you would have better precautionary savings against those shocks. The value of those savings is not going to fall just because you got sicker. That was our main insight.”

Even with health insurance, retirees can face high out-of-pocket medical expenses, especially for long-term care, which Medicare does not cover. While Smetters and Reichling find that most households should not annuitize their wealth to keep liquid savings available for those uninsured costs, the calculus changes depending on overall household wealth.

“If you have a lot of wealth, you can probably pay for health costs and long-term care, and other expenses that you may not have expected, and so you can probably afford to

annuitize a larger share of your wealth. If you don't have a lot of wealth, your liquidity needs as a fraction of your wealth will be higher, and you should probably annuitize only a small portion of it.

“It's the opposite of how people normally think about an annuity. Because they analogize it with Social Security, which operates like an annuity, they'll say an annuity is your base layer of protection. You want to have something that's constantly paying until you pass away. But it's not like you're just going along and suddenly you die. You have these expenses along the way associated with declining health. You need money for that, too. That's really crucial.

“This paper was considered to be very counterintuitive when it was published. We were honored to receive the Samuelson Award, especially since it was named after such a brilliant man who trained so many people.”

¹ Center for Retirement Research at Boston College, “How Much Do People Value Annuities and Their Added Features?” January 2, 2024.

“Incidental Bequests and the Choice to Self-Insure Late-Life Risks”

American Economic Review, 2018

Lee M. Lockwood

University of Virginia

WINNING PAPER: 2019

OVERVIEW

Retirees face potentially long lives and the risk of needing some form of long-term care. Yet many fail to lock in a lifetime income by buying an annuity, and few purchase long-term care insurance, seemingly choosing to self-insure with savings or rely on government programs. This paper explores what’s driving both decisions.

Explaining the puzzle of why retirees pass over insurance

A sixty-five-year-old today can be expected to live another 19.5 years,¹ yet few hedge against longevity by purchasing a life annuity—a phenomenon referred to as the annuity puzzle. While nearly half of Americans who reach age sixty-five will receive paid long-term care services in their lifetime,² only a small number buy private insurance to cover those future costs. In this conversation with Andrew Gellert, an economist at the TIAA Institute, Lee M. Lockwood, professor of economics, University of Virginia, shares his findings on what explains these choices.

The following comments on the paper have been edited for clarity.

“I’ve always been interested in people’s decisions about how much to enjoy today versus save for later. When I was a kid, my brother would eat all his candy immediately, whereas I’d save most of mine for later. During my PhD, I came to think that retirement is an especially interesting context for studying saving decisions. Retirees face considerable risks and have limited options for how to

deal with them. So it’s perhaps not surprising that, broadly speaking, retirees hold much of their wealth well into old age. What might be more surprising is that they typically do not buy annuities or long-term care insurance.”

A leading hypothesis for why retirees draw their wealth down slowly is that they are worried about running out of money if they experience costly shocks. The leading hypothesis for why people forego long-term care insurance—only an estimated 3 to 4 percent of Americans fifty and older have a policy³—is that Medicaid serves as an insurer of last resort. In that case, Lockwood notes, people are not too worried about running out of money if they experience costly shocks.

“As a grad student, I noticed a tension between these theories. The starting point of the paper was to test my hunch that these explanations are mutually inconsistent. It turns out they are. If people are worried about running out of wealth, standard models can explain high savings but not low insurance ownership. If people aren’t too worried about running out of wealth, standard models can explain low insurance ownership but not high savings. So what does explain retirees’ choices?”

Lockwood’s main PhD advisor at the University of Chicago was Nobel laureate Gary Becker, who did seminal work on the role of families and implicit insurance within them. That primed Lockwood to think about how transfers among families might affect saving and insurance decisions.

“My hypothesis was that bequest motives—valuing the prospect of leaving wealth to one’s heirs—could help explain retirees’ choices. Imagine someone whose only goal is to

maintain the highest living standard possible. Their optimal strategy would be one of two things. If they are nervous about risk and don't want to be in a situation where they can't maintain their living standard, they should buy a lot of insurance. But if they are OK with potentially relying on means-tested programs as a backstop, they can 'live it up' by spending their wealth rapidly.

"Neither of these strategies matches what most folks are actually doing, which is self-insuring by holding wealth well into old age and not buying insurance. It turns out, however, that self-insurance can be a good strategy for someone with a bequest motive. For them, wealth serves a dual purpose in an uncertain world. If they die early, it goes to their kids. If they live long and have big expenses, they can use it for that.

"A bequest motive makes self-insurance much more attractive. If you die young unexpectedly or you're lucky and don't have big expenditures, you can leave a big bequest. That bequest is a silver lining, if not better."

For many people nearing or in retirement, the decision to purchase an annuity or long-term care insurance will be made in consultation with a financial advisor. The findings from this paper can offer lessons for that conversation.

"Given the large risks in retirement, it might seem like retirees are making a mistake by not annuitizing more or by not buying long-term care insurance. But whether that's a mistake depends crucially on the individual's values, which can shape the conversation. 'What's important to you? If you really don't like the idea of having to rely on Medicaid, that's

pointing you in a certain direction. How do you feel about the possibility of making transfers to your kids?' This research can serve as a kind of decision tool to help people map their values to these key financial decisions.

"Receiving the Paul A. Samuelson Award was a tremendous honor. To be recognized alongside so many researchers I admire is something I deeply appreciate and never expected. I also appreciate that the Samuelson Award celebrates research with practical applications for lifelong financial security. It is my sincere hope that this work is useful to scholars, finance industry professionals, and the people they serve."

¹ National Center for Health Statistics, NCHS Data Brief No. 521, "Mortality in the United States, 2023," December 2024.

² Richard W. Johnson, Urban Institute, "What Is the Lifetime Risk of Needing and Receiving Long-Term Services and Supports?" ASPE Research Brief, April 2019.

³ KFF Health News, "Why Long-Term Care Insurance Falls Short for So Many," November 22, 2023.

“Combining Life and Health Insurance”

The Quarterly Journal of Economics, 2020

Ralph S.J. Koijen

University of Chicago

Stijn Van Nieuwerburgh

Columbia University

WINNING PAPER: 2020

OVERVIEW

Life and health insurance operate in different realms—in terms of how they are sold, managed, and regulated and in the assumptions underpinning their business models. In this paper, the authors consider whether a reimagining of that separation could fill an important medical funding gap.

An innovative idea for financing life-extending medical care

In recent decades, the rise of immunotherapy to treat certain cancers has resulted in promising improvements in survival rates. But the price of that progress can be prohibitively high. In this conversation with Surya P. Kolluri, head of the TIAA Institute, Stijn Van Nieuwerburgh, professor of finance, Columbia Business School, explains the novel financing idea he and collaborator Ralph S.J. Koijen developed.

The following comments on the paper have been edited for clarity.

“I’ve always been drawn to the question of how finance can make people’s lives better. There are no obvious answers when you study derivatives or many other aspects of finance. But in this case, I think my co-author, Ralph Koijen, and I found something that could have tremendous practical importance.

“In recent years, medicine has made incredible progress in treating and curing potentially fatal diseases. But many of these treatments are very individualized, and many are exorbitantly expensive. That raises a paradox: We live in a new world of amazing medical advances that essentially nobody can afford.”

A recent study found that the costs of immuno-oncology drugs for a full course of treatment of four cancers can run as high as \$217,000 to \$629,000, depending on the condition, roughly two to four times higher than the total drug costs five years earlier.¹

“Health insurers struggle to pay for this personalized medicine, leading to constant questions about what will and won’t be covered. To consider this in strictly financial terms, health insurers don’t benefit from expensive treatments that extend your life. They benefit when you die sooner than expected.

“Our simple idea was to ask who *does* benefit financially from lifesaving treatments. Our basic insight is that it is life insurers, who can put off paying your death benefit until much later. They would love for you to live to be ninety-nine years old. If there’s a cure that would restore your health, it should be in life insurers’ best interests to provide it. I think it’s a very beautiful idea.

“For our research, we asked what is the present value of having someone live longer? We looked at clinical trials in which one group of patients got a standard cancer treatment, while the other group got a new therapy. We calculated the improvement in survival provided by immunotherapies and

found that the present value for life insurers of increased longevity due to these new personalized treatments is about \$7 billion. In theory, that money should be available to pay for those treatments. In our paper, we suggest that the financing could be through loans against the value of the policies or reduced death benefits.

“The original title of our paper was ‘Financing the War on Cancer.’ But this idea is much broader than cancer and even broader than treating disease. Anything that improves your longevity in a meaningful way could be paid for by life insurers. That includes prevention to reduce the very high cost of treating chronic diseases, which is another huge burden for health insurers.”

Among the many medical advances that have occurred since Nieuwerburgh and Koijen first published their findings in 2019, one of the most remarkable involves the popular injectable drugs for weight loss and diabetes. Yet private health insurance may not cover these medications solely for weight loss (in April 2025, Medicare announced it would not). Without insurance coverage, popular injectable drugs like Ozempic, Wegovy, and Mounjaro can run \$1,000 to \$1,400 a month.²

“It turns out that these weight loss and diabetes drugs are also effective in treating many other conditions. However, they cost a lot of money, and, once again, commercial health insurance companies and Medicare and Medicaid have debated whether to cover the cost. For life insurers, though, the increased longevity the treatments are likely to provide would be a clear benefit.

“We really wanted this to be a practical idea, and even before we published our paper, we organized a conference at the University of Chicago and invited people from the life insurance industry as well as medical experts and state insurance regulators. In brainstorming about what it would take to get our idea off the ground, we realized very quickly that there is a lot of friction. Health insurance is regulated quite separately from life insurance. The state regulators for each barely communicate with each other. And although there are companies that offer both life insurance and health insurance, the people in each business are completely siloed.

“Since publication, we’ve had interesting conversations with large life insurers. At one point, Ralph and I even played with the idea of starting our own business with a friend in the insurance industry. In Asia, there are products that do combine health and life insurance. But there are many obstacles to doing that here.

“We were extremely honored to receive the TIAA Paul A. Samuelson Award. I very much like the spirit of the award, which focuses on excellent quality standards for academic work but with an eye toward practical relevance. It emphasizes lifelong financial security, which I think is still relatively understudied in finance and economics. This prize makes that issue more salient and stimulates people to work on questions of how to provide that kind of security. It gives visibility to the research.

“In the long run, research is all about impact. You can publish a paper in a good journal, but if nobody reads it and nobody

continues to work on the questions that the paper explores, it won't have much impact on the real world. Deep inside, every academic wants to do work that is going to change the world.”

¹ S. Ranjan et al., “Trends in Cost of Treatment with Immunology Drugs in the US,” *Value in Health*, June 2024.

² Kate Bayless, “Weight Loss Medication Guide: Types, Costs and How They Work,” Carecredit, April 25, 2025.

3

Financial Markets and Investor Behavior

How We Invest for the Long Term

Millions of Americans, especially participants in defined contribution retirement plans, invest in the financial marketplace, and much of their financial security depends on the performance of their investment portfolio. The Samuelson Award-winning works in this section offer landmark contributions to our understanding of long-term investing, portfolio allocation, and the impact of financial instruments on markets. These collected works outline the importance of time horizon and frictions and the impact of innovative solutions on the market.

This body of research spans nearly three decades, beginning in the early 1990s with Robert Shiller's 1993 visionary work on macro markets. At that time, with increasing participation in defined contribution plans, many workers needed to make choices about financial risk, portfolio diversification, and long-term investing, concepts that had long been the domain of institutional investors. In his book *Macro Markets*, Shiller proposed bold new institutions that would allow individuals to hedge against large-scale economic risks, such as housing market collapses or regional employment downturns.

Shiller's work was ahead of its time, anticipating not just financial innovation but also the broader public conversation about shared risk and economic resilience.

Alongside Shiller's institutional proposals, a parallel revolution was underway in the technical analysis of market behavior. Two influential books, *The Econometrics of Financial Markets* by John Campbell, Andrew Lo, and Craig

MacKinlay in 1996 and *Asset Pricing* by John Cochrane in 2001, offered theoretical grounding and rigorous tools for evaluating asset returns, volatility, and market efficiency. These works helped codify techniques for understanding financial data and remain a cornerstone for both academic and applied financial research.

Building on this technical foundation, Nicholas Barberis' 2000 paper, "Investing for the Long Run When Returns Are Predictable," explored a provocative and practically relevant question: If asset returns are predictable, should long-term investors allocate wealth differently than short-term investors? While generally long-term investors should hold more equities, this depends greatly on the uncertainty of asset returns. John Campbell and Luis Viceira's 2002 book *Strategic Asset Allocation* continued to push theoretical considerations of long-term investors. One component of their comprehensive work is how the role of bonds differs between long-term and short-term portfolios, providing theoretical guidance for investors. A staple tome in finance for over twenty years, this book continues to influence both academics and industry practitioners.

One of the most practically consequential contributions in this section comes from Robert Dammon, Chester Spatt, and Harold Zhang. In 2004, they tackled a challenge facing millions of American households: how to allocate investments across taxable and tax-deferred accounts. Their analysis revealed that ignoring the interaction between different account types is suboptimal and proposed a strong preference

for holding equities in taxable accounts and bonds in tax-deferred ones. This research offers real-world guidance with practical implications.

Investors don't always conform to the predicted theoretical outcomes. James Choi, David Laibson, and Brigitte Madrian's 2010 experimental study on index funds illustrated how even well-informed individuals often fail to choose the lowest-cost option and instead can be influenced by irrelevant historical returns. While earlier research suggested that investors change their portfolio risk-taking depending on how investment performance is presented, in 2017, John Beshears, Choi, Laibson, and Madrian found that these differences in how information is aggregated do not impact total equity investments, providing more evidence for how disclosure policy may or may not impact financial decision-making.

The most recent paper in this section, by Jonathan Parker, Antoinette Schoar, and Yang Sun, provides a window into the consequences of retail financial innovation. Focusing on target-date funds, now a dominant default investment option in retirement plans, this 2023 paper examined how flows into these products are reshaping equity market dynamics. Their empirical work suggests that rising use of glide path-based investing may reduce stock market volatility but might also increase the stock-bond correlation.

Taken together, these nine award-winning works offer a panoramic view of the importance of financial markets. Above all, Paul Samuelson's own work in economic theory laid the foundation for later economists. As the

next generation of investors confronts increased market uncertainty, these contributions offer more than academic insight; they provide a foundation for navigating financial markets and underscore the importance of aligning financial design with human needs, institutional context, and long-term vision.

Annamaria Lusardi

Senior Fellow at the Stanford Institute for Economic Policy Research (SIEPR) and Director of the Initiative for Financial Decision-Making, a collaboration between SIEPR, the Graduate School of Business (GSB), and the Economics Department at Stanford University. She is also Professor of Finance (by courtesy) at the GSB.

*Macro Markets:
Creating Institutions for
Managing Society's Largest
Economic Risks*

Oxford University Press, 1993

Robert J. Shiller

Yale University

WINNING BOOK: 1996

OVERVIEW

In this book, Robert Shiller proposes the development of new types of risk-management contracts, such as futures that track national incomes or securities based on real estate prices. By reducing volatility, these new markets would improve economic stability and reduce wealth inequality, and the construction of indexes could solve measurement and settlement issues.

Devising novel strategies to insure consumers from risk

Robert J. Shiller, Nobel laureate and professor emeritus of economics at Yale University, won the inaugural Samuelson Award in 1996 for *Macro Markets*, his visionary book proposing new ways for individuals to hedge against economic risks. What Shiller argued is that most people's wealth is not well diversified. Although they can own a wide range of investments, their income is sensitive to where they live, their career of choice, and other factors. With a new set of markets based on futures contracts, people could protect their finances against swings in their job security or fluctuations in their home price, improving long-term financial security. In this conversation with David P. Richardson, head of research at the TIAA Institute, Shiller discusses how those markets have played out, new risks to financial well-being, and the power of narrative.

The following comments on the book have been edited for clarity.

“**I** wrote this book more than thirty years ago, and this topic has remained an interest of mine. When I wrote *Macro Markets*, I was reading a book called *Inventing Retirement* by Leslie Hannah, which started me thinking

about retirement. Retirement was only widely introduced as a concept in the twentieth century, and while much has happened since, we still need more financial tools to make it work.

“Since my book was published, the markets we envisioned haven't developed as I'd hoped in terms of improving people's retirement security. There have been innovations, but many of our risks are not easily measured. The Chicago Mercantile Exchange set up futures and options markets based on our indexes, yet they're still talking about improving them. People often retire with little more than their house as wealth. Selling that home can provide a financial cushion, but it's incomplete protection.

“I remember talking to someone in the UK, where they had betting markets for home prices. I asked, ‘How many people do you know who are using this to hedge their home price risk?’ He said, ‘Oh, we're a gambling market; it's not necessarily the homeowners doing this.’ In a sense, this idea of hedging home price risk has been disappointing. That just means we have to human engineer things more to help people protect against retirement risks.”

In the decades since Shiller wrote *Macro Markets*, new risks have emerged that could undermine Americans' financial security, including threats to home values from global warming and risks to income due to artificial intelligence (AI) making certain jobs obsolete.

“We're not taking adequate measures to stop global warming. It requires innovation to deal with the unmanaged risk,

maybe swaps between countries. I'm worried about how it's going to impact India and other countries where a lot of people don't even have air conditioning. Another book I read years ago—*When All Else Fails* by David Moss—pointed out that the government remains the risk manager of last resort. And that seems to be true with global warming. There are some efforts to deal with it, but ultimately it comes down to the government.

“Looking back at how markets have evolved over the last thirty years, the biggest surprise is AI, which I never dreamed would happen in my lifetime. We're participating in AI even if we don't want to. And AI introduces new risks to the job market. Managing income risks is a major theme of *Macro Markets*. The idea is that people could buy an index specific to an occupation they are pursuing. There could be an income index for computer programmers, for example. That's a popular major now in US colleges, I believe. Due to AI, we may have an oversupply of young people who've prepared themselves for those jobs when fewer are being generated. They might like to have a livelihood insurance product.”

Following *Macro Markets*, Shiller focused on the importance of behavioral factors in market volatility. His books on that subject include *Irrational Exuberance* (2000) and *Animal Spirits* (2009), written with George Akerlof and winner of the 2009 Samuelson Award (see page 37). More recently, Shiller has turned his attention to the theme of storytelling. His 2019 book *Narrative Economics* discusses how shared stories shape individual and collective economic and investment behavior. In recent decades, stories can go viral, whether they are true or false, driving the economy and financial markets and influencing how people

think. Trust, Shiller notes, is a key element of storytelling, and something that is being eroded today.

“We have a problem right now that the government seems to be interfering with official statistics, something I assumed were sacrosanct. That reduces the sense of trust more generally. If you have a government that is deceitful, it creates a whole narrative of mistrust, and that makes it hard to get things done and interferes with the success of the economy. The decline in trust in institutions is now a fact.

“I think people can individually try to be trustworthy. How we use words and stories that form a narrative can be a powerful means of framing things in a way people can connect with. It's an idea that appeared early on in our country with the legend of George Washington admitting that he chopped down the cherry tree, helping to bolster his reputation for honesty. When Franklin Delano Roosevelt set up the Social Security system, he made sure that it was something people contributed to, rather than paying benefits from general tax revenue. That way, the payments were framed as benefits people earned, not money doled out by the government, which was a stroke of genius. That shows that words matter, and narratives matter.”

The Econometrics of Financial Markets

Princeton University Press, 1996

John Y. Campbell

Harvard University

Andrew W. Lo

Massachusetts Institute of Technology Sloan School
of Management

A. Craig MacKinlay

The Wharton School of the University of Pennsylvania

WINNING BOOK: 1997

OVERVIEW

This landmark 1996 textbook for graduate students and financial professionals delves into the quantitative methods used in financial markets to this day, describing statistical techniques that can be applied to portfolio management, proprietary trading, risk management, financial consulting, and more.

The development of practical tools for modeling the future

The 1996 publication of *The Econometrics of Financial Markets* marked a shift in the way finance professionals put data to practical use. Drawing from economics, mathematics, and statistics, econometric models can help predict market trends and manage investment risk. Andrew W. Lo, Harris & Harris Group Professor of Finance at the Sloan School of Management, Massachusetts Institute of Technology, talks to Brent J. Davis, a senior economist at the TIAA Institute, about why he and his fellow authors decided to write this landmark textbook and how econometric analysis has evolved over the three decades since.

The following comments on the book have been edited for clarity.

“**A**lthough finance today is based very heavily on empirical analysis, the focus when I was in graduate school was much more on data and the underlying markets than on fancy statistical modeling. But it seemed important to me that we apply the same standards of statistical inference to finance as were being applied to

labor, macroeconomics, and other fields. I wrote a lot of papers and then taught a course on the econometrics of financial markets. But there was no textbook, and I had to create handouts every week for my students. My co-authors had similar experiences, leading us to collaborate on this textbook.

“Econometrics is really the language of how economic decisions play out over the course of years and through various risky and uncertain circumstances. That really is the core of finance, and it’s the only way we can even talk about the future. There are no other tools that get us from point A to point Z in thinking about how to plan for retirement and other goals.

“Someone once said that you can’t manage what you can’t measure. If you’re managing your retirement assets, you have to be able to measure certain aspects of that process. What is the likelihood that I’ll be able to retire when I want to? What is the downside risk? How does my asset mix affect those probabilities?”

One of the chapters in the book was devoted to the Monte Carlo simulation, a then-esoteric tool that was developed in the 1940s for the Manhattan Project as a way to solve some of the complex mathematical problems of designing an atomic bomb. It has since become ubiquitous in the field. In 1996, Nobel laureate William Sharpe co-founded a company called Financial Engines that used Monte Carlo analysis to help financial advisors show clients the potential outcomes of retirement saving decisions and market movements. Advisors embraced the approach, and in 2010, Financial Engines went public with a market capitalization of about \$675 million.¹

“Much has changed since we published our book. Recently, there has been an interesting shift to something broadly known as data science, which combines artificial intelligence and very powerful computational tools with empirical analysis and econometrics. I think that’s a largely positive development—we need to go wherever the most powerful tools are and where the most productive ideas are being developed.

“It’s true, though, that these extremely powerful tools can do a lot of damage if they come up with patterns that aren’t there and generate results that simply aren’t accurate or useful. In some cases, you have tools that are looking for problems to solve.

“I think that’s where Paul Samuelson and other giants of modern finance really led the way by insisting that we focus on the essence of a problem. Gene Fama is a great example of that. When he published early papers on stock market efficiency, event studies, and the capital asset pricing model, his tools weren’t particularly sophisticated. But he did an enormous amount of statistical inference in a very careful manner using relatively simple tools. I always use Fama as an inspiration for developing new econometric techniques. Do we really need something new, or are there existing tools that are just as good and that are simpler to understand and interpret?”

Lo, John Campbell, and Craig MacKinlay’s work on practical applications of quantitative financial research continues to be influential. Thirty years after they wrote this seminal textbook,

at least sixty US universities offer graduate programs in econometrics. And in 2023, the CFA Institute, which certifies financial advisors, launched a Data Science for Investment Professionals Certificate, a new credential reflecting the most recent evolution of econometrics.

“Today I’m very interested in the role of artificial intelligence in financial markets and financial decision-making. I’ve been working with my students to develop a large language model for providing financial advice to people who are often ignored by the financial services industry.

“I once told my introductory finance students that if it weren’t for uncertainty and risk, finance would be a solved problem. The only thing that makes what we do interesting is the fact that we actually don’t know what’s going to happen to the stock market and bond market tomorrow, never mind next year or fifty years from now. The only way we can even talk about the future is through tools like econometrics.

“The statistician George Box said that all models are wrong, but some are useful. We know we’re not going to be perfect. But I think econometric models are very useful.”

¹ Vahan Jangjian, “Financial Engines Is A Sharpe IPO,” *Forbes*, March 16, 2010.

“Investing for the Long Run When Returns Are Predictable”

The Journal of Finance, 2000

Nicholas C. Barberis
University of Chicago

WINNING PAPER: 2000

OVERVIEW

In this paper, the author examines optimal portfolio choices for investors with long time horizons, given the evidence that asset returns are predictable. Even assuming uncertainty over the model's parameters, the analysis concludes that returns are predictable enough to allow investors to allocate substantially more to stocks the longer their time horizon.

Making the case for holding stocks for the long term

In this conversation with David P. Richardson, head of research at the TIAA Institute, Nicholas C. Barberis, now the Stephen and Camille Schramm Professor of Finance at the Yale School of Management, talks about how his Samuelson Award-winning paper on portfolio choice kicked off his academic career, the case for holding stocks for the long term, and how his research built on the legacy of Paul Samuelson.

The following comments on the paper have been edited for clarity.

“**D**uring a PhD program, you’re asked to do original research for the first time. You’ve got a blank sheet of paper in front of you, and, like most graduate students, I was flailing. This was at Harvard, where I had taken Gary Chamberlain’s course on econometrics, and we had been talking a lot. He was very interested in decision-making and how to take parameter uncertainty

into account—we have models of the world, but often these models have parameters, and we’re unsure what their values are.

“Portfolio allocation is an interesting, real-world application of this. You are making an important decision about allocating your money between stocks and bonds, but the parameters of asset returns are very uncertain. One day, Gary called me and simply said, ‘Nicholas, I’ve been thinking about you, and I really think you should work on that portfolio choice thing. OK, bye.’ That was such a pivotal moment.

“The model I started with was one where returns are predictable, something almost all financial economists agree on. When prices are high in the stock market, subsequent returns over the next few years tend to be lower. When prices are low, returns tend to be higher in the following years. My question was: What does that imply for portfolio allocation, particularly in terms of time horizon? Predictability implies that younger people should invest more in stocks than older people. The reason is that the predictability makes stocks less risky over longer horizons.

“The point of my work was to take parameter uncertainty into account. Yes, there’s predictability, but we don’t know how strong it is. What I found is that even if you don’t know that, it is still the case that younger people should invest more in stocks. But it’s not as strong an effect as it would be if you neglected parameter uncertainty. When you factor in this uncertainty, then, yes, you want to invest more when you’re younger, but don’t overdo it.

“A very interesting practical aspect of this approach is target-date funds, which have a higher equity allocation for people with longer horizons. Academic research has provided two or three motivations for why younger people should invest more in equities. One is that young people have all this human capital, which is like a bond, so you need to balance that out with a lot of equity investment in your financial wealth. I think the reversion to the mean argument at the heart of my paper is a good one, too.”

Barberis' paper built on work by Paul Samuelson and Robert Merton, who in the 1960s wrote some of the first influential papers on portfolio construction, where they showed that under certain benchmark assumptions, time horizon is irrelevant.

“When I started my research in the 1990s, the Samuelson results were very famous, and in a way, I was revisiting them and working to update what he had laid out. In my work, I relaxed some of his thinking around returns. His research had used an assumption that stock market returns were independent, so that past results did not tell you anything about where the market was going in the future. But I relaxed that using empirical evidence that stock market returns can be predictable. And when you deviate from Samuelson's assumption in that way, then you get a different stipulation that younger people should invest more in stocks than older people.”

In the decades since writing his Samuelson Award-winning paper on financial decision-making, Barberis has focused on behavioral finance in his research and teaching, publishing extensively on the psychology of investor behavior.

“Almost immediately after writing this paper, I became interested in behavioral finance, which was a tiny field at the time. So there is a sense in which this paper, which received the Samuelson Award, is an outlier in my overall work. On one level, it is true to say that I wrote this paper on financial decision-making and then moved into behavioral finance. However, I see a connection, and I think this paper does take a behavioral finance approach, even though it is silent about it.

“I captured the view that when prices are low in the stock market, they're probably too low, so you should load up on stocks. And when prices are high, perhaps they're too high, so you should offload some stocks. That thinking was essential to this paper, and looking back now, I can see it is a rather behavioral perspective, even if I didn't discuss it in those terms at the time.

“That this paper, which came out of conversations with Gary Chamberlain for my dissertation, won the Samuelson Award was a thrill. It was my job market paper back in 1996, so it was the paper that got me into my career, which has been so meaningful. But what was even more important to me was that Gary had been my main advisor on this research, so I was happy to win the award for him.”

Asset Pricing

Princeton University Press, 2001

John H. Cochrane

University of Chicago

WINNING BOOK: 2001

OVERVIEW

The field of asset pricing—understanding the value of stocks, bonds, and other assets—lacked a comprehensive, one-volume synthesis of the prevailing theories and approaches. This landmark 2001 PhD-level textbook answered the need.

Toward a unified, simplified approach to asset pricing

In this conversation with Brent J. Davis, a senior economist at the TIAA Institute, John H. Cochrane, now senior fellow, Hoover Institution, Stanford University, discusses his aims in creating what would become the standard asset pricing textbook for generations of PhD candidates and advanced MBA students—and shares what has been keeping him busy lately.

The following comments on the book have been edited for clarity.

“**A** *Asset Pricing* emerged from an advanced asset pricing class I taught for many years at the University of Chicago. Notes grew into longer notes, and eventually I said, ‘I have a book here.’

“It’s really half book, half monograph. I wanted to put my stamp on how one regards the basic underlying theory of asset pricing. I did that in two ways. First, I integrated three fundamental pricing frameworks, showing how to translate from one to the other. I also brought in several econometric traditions on asset implementation and put everything under

one hood in a unified approach to modern asset pricing. The idea was to clarify, simplify, and integrate ideas that until then were available only in highly complicated academic articles.

“The second innovation was in how the book is ordered. Most textbooks are organized by the history of thought, starting from the earliest ideas. But I realized that, over the years, we had made significant leaps in our understanding of asset pricing, especially with the growing recognition of the importance of dividend discounting. So, I started there and worked backward.

“The dividend discount model holds that a stock’s current price equals the present—or discounted—value of the stock’s future dividends. What became increasingly clear in the years leading to the publication of *Asset Pricing*, and what’s captured in the book, is just how important and complex the discounting part is. Sometimes, dividends are on sale because the average investor doesn’t want to bear the risk. At other times, those same dividends aren’t on sale because there’s a perceived opportunity. Before you invest, you need to understand the market and the opportunities that it’s giving you. What’s the nature of the risk? Who is or isn’t in a position to bear that risk?

“You can boil those down into still more basic questions: Why do stocks go up and down so much? What are business cycles about? Where should investors put their money? In a recession, people are scared to death, and stock prices fall. We all know that’s a good buying opportunity. But it might get worse first, so a typical investor says, ‘it’s a great opportunity,

but I can't afford to take the risk.' That tells you a lot about recessions, asset markets, and long-term investing. These economic ideas, which bear directly on discounting, were what excited academics in the 1990s, when I was writing *Asset Pricing*."

Its comprehensiveness has helped keep *Asset Pricing* relevant. Still, Cochrane has a "lacuna" or two he'd like to fill in, starting with portfolio theory. His 2022 essay in the *Review of Finance*, "Portfolios for Long-Term Investors," argues that modern portfolio theory, which for fifty years has been used to shape retirement investment, focuses on short-term results and has little practical value for long-term investors.

"Modern portfolio theory is stuck on one month or one quarter mean and variance, which would be OK if the world were just a daily coin flip. But it's not. Retirement may last twenty or thirty years, and life is uncertain. You may have health expenses, you may want to pass something on to kids, you might be willing to take some risks, you might have business income. How do you structure a long-term portfolio to account for these and other factors? That's still a challenge, and we need answers that are fundamentally different from today's advice. My essay is offered as an encouragement to economists: Hey, we can do more research on this."

Cochrane would like to add sections on research areas that have become pressing topics since the 2000s, such as rapid trading.

"During the 2008 financial crisis, there were clearly some weird things happening in markets. Some markets were going

nuts, and long-term investors weren't jumping in. Since then, economists have become more interested in institutional finance and the deep weeds of who buys and who sells in high-speed transactions. That will go into a revised edition of *Asset Pricing*, if I get another lifetime."

Cochrane's most recent research has investigated the causes of inflation. His 2023 book, *The Fiscal Theory of the Price Level*, contends that inflation comes not from the relative money supply but chiefly from government debt and spending.

"Central banks set interest rates but no longer control the money supply. Those days are gone. So, where does inflation come from? There was no economically respectable theory. I'm like a two-year-old with a hammer. Everything looks like a nail. I began applying financial theory to questions of inflation and government debt, starting with the idea that price is the present value of dividends. That insight, adjusted to reflect variables like debt, taxes, and government spending, radically reshapes our understanding of inflation and provides the basis for a respectable theory—that inflation rises when people begin to question the ability of government to repay its debts.

"The Samuelson Award was a tremendous honor. Paul Samuelson did pioneering work in asset pricing. I feel very much part of that tradition. The award was also influential in raising the book's visibility. *Asset Pricing* became the standard textbook for two decades of high-level PhD and MBA asset pricing, and I think receiving the award had something to do with that."

*Strategic Asset
Allocation:
Portfolio Choice for
Long-Term Investors*

Oxford University Press, 2002

John Y. Campbell
Harvard University

Luis M. Viceira
Harvard University

WINNING BOOK: 2002

OVERVIEW

One of the most important decisions a retirement investor faces is how to allocate a portfolio of stocks, bonds, cash, and other assets. This influential 2002 book builds on seminal research about risk and return to address the complex needs of investors with long time horizons.

The long-term risks of short-term investing

In this conversation with Brent J. Davis, a senior economist at the TIAA Institute, John Y. Campbell, professor of economics at Harvard University, talks about how he and co-author Luis M. Viceira—then a PhD student of his and now a professor at Harvard Business School—developed their theory of strategic asset allocation, or the difference between the optimal investment strategy for a short-term and a long-term investor.

The following comments on the book have been edited for clarity.

“**T**he central challenge for any investor is to create a portfolio that properly balances risks they can tolerate with the returns they need. In this pursuit, generations of investors and their financial advisors have been guided by modern portfolio theory—ideas introduced in 1952 by economist and future Nobel laureate Harry Markowitz.

“Markowitz and others argued that managing risk and return has less to do with individual stock or bond selection

than with the overall ratio of stocks to bonds in a portfolio. Markowitz’s work, however, presupposed that investors care about risk and return over a brief, finite period: one to three months or at most a year. While this was a very important and useful step forward, many investors are concerned with much longer periods of time.

“For a conservative investor with a small window, short-term Treasury bills or cash equivalents such as CDs and money market funds may provide an almost perfect, risk-free choice. You’ll get your money back, and inflation or interest rate volatility won’t have time to seriously affect your returns. But anyone investing for retirement must plan to support a lifestyle that’s not a few months away but years or even decades. For those investors, interest rates, inflation and other factors become looming unknowns, and when you apply short-term models to long-term investing, things can go very wrong. The single-period risk management framework that goes back to Markowitz doesn’t capture the essence of the problem.”

In 2003, Campbell recalls, *The Wall Street Journal* profiled a risk-averse investor in Florida who had put all her money into what she believed to be the safest possible choice, a series of short-term CDs. Over time, falling interest rates slashed her income, leading her to curtail her spending, cut back on socializing, and even sell her treasured English Rose china collection, one piece at a time.¹

“That really spoke to the human consequences of getting this wrong. For this woman, a less risky and more suitable alternative might have been a portfolio of long-term bonds. Better still, she might have added protection against the

long-term risk of inflation by opting for Treasury Inflation-Protected Securities, or TIPS. That way, if interest rates dropped, she would collect the same coupon payment, and if inflation rose, her income would go up along with it.

“In addition to the real-world reason to study this subject, I had an academic interest because of the earlier work I’d done on measuring changes in expected returns with Bob Shiller in the 1980s and early 1990s. I was very aware of the importance of investment opportunities changing over time, one of the things that makes the long-horizon problem different from the short-horizon problem.”

Campbell points to another shortcoming of any short-term analysis of risk—it considers investing in isolation from other assets, such as labor income, that may have a significant impact on an investor’s risk–return profile.

“My students may have limited financial resources at this early stage of life, but they do have an enormous asset: future earning power, and it’s considerably safer than stocks. For that reason, young workers may be ill-served by portfolio models that assume they need bonds to mitigate stock risks. Since their future income already does that, an all-stock portfolio may be a reasonable choice.”

In the more than twenty years since *Strategic Asset Allocation* appeared, Campbell believes his work and that of other academics have helped real-world portfolios better address the challenges of investing for the long term. But, he adds, there’s work to be done.

“Target-date funds, which become more conservative over

time, are a step in the right direction. But a state-of-the-art fund would consider not just your age but income stability, savings levels, market performance during your investing years, and many other factors. Unfortunately, we don’t have that kind of product yet.

“The truth is that long-term investing is hard conceptually. Despite my best efforts in this book and other writings, it’s still an uphill struggle to explain these ideas. So I’ve co-written, with economist Tarun Ramadorai, another former student of mine, my first book for a general rather than academic audience: *Fixed: Why Personal Finance Is Broken and How to Make It Work for Everyone*.

“Paul Samuelson and his then-student, Robert Merton, were among the first economists to investigate the long-term investing problem back in the 1960s—work that inspired us. The Paul A. Samuelson Award was a huge honor in 2002 and is something I’m proud of to this day. I had the pleasure of speaking with Samuelson several times, and his important work on behalf of long-term investors makes a prize with his name on it especially meaningful.”

¹ Kelly Greene, “As Fed Cuts Rates, Retirees Are Forced to Pinch Pennies,” *The Wall Street Journal*, July 7, 2003.

“Optimal Asset Location and Allocation with Taxable and Tax-Deferred Investing”

The Journal of Finance, 2004

Robert M. Dammon
Carnegie Mellon University

Chester S. Spatt
Carnegie Mellon University

Harold H. Zhang
University of North Carolina at Chapel Hill

WINNING PAPER: 2004

OVERVIEW

A key question individual investors face is how to invest their savings in both taxable and tax-deferred accounts, a challenge that involves not only asset allocation decisions but also asset location, or which types of assets to hold in each account. This paper suggests an approach for doing that in the most tax-efficient manner.

A fresh take on what to hold in a tax-deferred account

In this conversation with Brent J. Davis, a senior economist at the TIAA Institute, Chester S. Spatt, the Pamela R. and Kenneth B. Dunn Professor of Finance at the Tepper School of Business at Carnegie Mellon University, talks about the importance of asset location when saving for retirement, the role of “neutral” tax rates, and how standard financial advice has evolved to reflect their approach.

The following comments on the paper have been edited for clarity.

“**B**ob Dammon, Harold Zhang, and I wrote an earlier paper on realizing capital gains and the trade-offs between rebalancing a portfolio on the one hand and paying capital gains taxes on the other. As we tackled that, we realized that, for many investors, the problem we were looking at ignored a central issue, which was what to hold in the taxable accounts versus tax-deferred accounts. There was folk wisdom out there that basically said, ‘Well,

you want to invest your tax-deferred money for the long term and your taxable money for the relatively shorter term.’ I think early on, we recognized that folk wisdom was likely wrong.

“Taxable accounts are where having lightly taxed assets is *very* beneficial. So implicitly, tax-deferred accounts might be a good location for heavily taxed assets, and indeed that’s how it works.”

In the early 2000s, when the authors were conducting this research, tax reform legislation had cut tax rates on ordinary income, capital gains, and dividends, making taxes top of mind for many.¹ Yet Spatt notes that the multiple income tax rates an investor may face is the wrong way to approach this question of asset location.

“One way to think about this is that an individual has two different tax rates: one for his taxable accounts and one for his tax-deferred accounts. Yet there’s some confusion about what that rate is for a tax-deferred account. A lot of people think it’s their regular tax rate. When you withdraw money, the government is going to take, let’s say, 30 percent if you’re in the 30 percent bracket. In effect, the government owns 30 percent of your holdings in the tax-deferred account, regardless of which assets you invest in or when you take distributions.

“In a sense, you own only 70 percent of the assets in your tax-deferred account and can earn pre-tax returns on those assets. Effectively, you face a zero-tax rate. So, when the tax rate is zero, which assets would make the most sense to hold

in your tax-deferred account? Obviously, you'd want to hold assets that would otherwise be taxed at the highest tax rates, such as interest-producing fixed income securities. That's our core point.

"I think our insights are simpler to understand in the context of a Roth IRA because with those accounts, there's no tax on withdrawals. Any confusion about the tax rate goes away because everybody instinctively understands the Roth tax rate is zero."

While the authors showed that it's best to invest heavily taxed assets in a tax-deferred account and lightly taxed assets in the taxable account, Spatt also points to nuances depending on the investor's total wealth.

"Another theme to emphasize is where you want to hold equities, which have a relatively low effective tax rate because of the ability to defer realizing capital gains and the lower capital gains tax rate. That makes a taxable account the preferred location for equities. Equity holdings will spill over into the tax-deferred account only if an investor's optimal holding of equity exceeds the amount of wealth in the taxable account. Even in that case, the proportion of wealth allocated to equity will be higher in the taxable account than in the tax-deferred account.

"Part of what our paper is about is managing risk on an overall basis. Basically, what we're arguing is that you want to take the effect of taxes into account in a serious way when your wealth is split between taxable and tax-deferred accounts. Taxes are a key variable."

This paper's approach to asset location has worked its way into the financial advisory industry, but for individual investors, the shift is complicated by the widespread use of target-date mutual funds in tax-deferred retirement accounts.

"Over time, there's been some change, but it's far from complete. I don't think as many advisors are confused about these points and still want to hold the fastest-growing asset in the tax-deferred account, but I'm sure some are still confused.

"Another factor is the prevalence of the target-date funds in the tax-deferred accounts. This isn't a criticism of the target-date funds per se. But the absence of products and approaches that integrate taxable and tax-deferred accounts in determining the optimal allocation and location of assets makes this still a wide-open issue."

¹ Tax Foundation, "Historical US Federal Individual Income Tax Rates & Brackets, 1862-2025," August 15, 2025.

“Mutual Fund Flows and Performance in Rational Markets”

Journal of Political Economy, 2004

Jonathan B. Berk

University of California, Berkeley

Richard C. Green

Carnegie Mellon University

WINNING PAPER: 2005

OVERVIEW

On average, mutual fund managers do not outperform passive benchmarks, and past performance is not persistent. Yet investors continue to put their money into actively managed mutual funds. This seminal paper offers a rational explanation for investor behavior and what happens to manager returns over time as a result.

Why investing based on past performance can be perfectly rational

Could investors' seemingly irrational interest in actively managed mutual funds in fact be a perfectly rational decision? In this conversation with David P. Richardson, head of research at the TIAA Institute, Jonathan B. Berk, now A.P. Giannini Professor of Finance at Stanford University, talks about what he and co-author Richard C. Green found when they posed that question.

The following comments on the paper have been edited for clarity.

“**T**his paper was the result of a wonderful collaboration with Rick Green that started when I was asked to lead a discussion on mutual funds. Though I didn't have much experience or even interest in mutual funds, I was intrigued by the question of why investors often paid a premium to join actively managed funds, even though, statistically, active funds didn't

outperform passive index funds. Even when active managers did outperform markets for a time, they typically couldn't sustain that performance. Were those high performers just lucky?

“A common claim was that because active managers don't consistently outperform, they must lack ability, and therefore people who invest in them are behaving irrationally. But it didn't seem right that you'd have a whole industry where everybody's an idiot, with unskilled managers being richly rewarded by irrational customers. These managers are making a lot of money, so they must have something to offer.

“Over lunch, I raised the subject with Rick, who was then editor of *The Journal of Finance*. As we talked, it hit us: It's not the fees that prevent persistent outperformance. It's the size of the fund. That idea set us on our way.”

Berk and Green found that when a fund performs well, investor capital flows in from a rational desire to tap the skills of a talented manager. But this rational behavior changes the dynamics of the fund in important ways, often leading to less-than-hoped-for performance.

“Investing is governed by the phenomenon of decreasing returns to scale. Outsized returns can't go on forever; things need to find equilibrium. With individual stocks, that occurs through pricing. If an underpriced stock is generating strong returns, investors pour in, the price quickly rises, and the relative return decreases accordingly. The problem with mutual funds is that the price is always the net asset value of the fund. If new information comes in and says, 'Look, this

manager is better than we thought,' it can't adjust on price. It's the quantity that changes. As new investor capital flows in and a fund grows larger, the relative returns decrease to scale.

"There are two reasons for this. For one thing, managers invest in their best ideas first. So, if more money comes in, they have to come up with a new idea that's probably not going to be as good as their last one. Second, if managers simply keep investing in the original idea, bid-ask spreads will drive up costs. The more orders, the more the market maker adjusts the bid-ask spread against you.

"Whichever path the manager takes, returns are hurt by the excess capital. Capital flows in until the point that the alpha, which used to be there because we thought the manager was good, goes away. The great puzzle was why, if performance is unpredictable, do people chase past performance? Previous explanations have gotten the cause and effect wrong.

It's not that investors are irrational because markets are unpredictable. Markets are unpredictable precisely because rational investors are chasing performance, inevitably leading to decreasing returns to scale."

While fees for both active and passive funds have declined over the years, investors still pay a premium for active fund management, an average of 0.59 percent versus 0.11 percent for passive funds in 2024, according to Morningstar.¹ Whether paying extra for skilled management makes sense depends, Berk believes, on the reasons you invest and the interest you take in the process.

"Some people really enjoy investing. They follow the stock market daily and constantly search for managers. Those investors may find an advantage in being ahead of the game. If you're paying close attention, see a manager who is doing well, and invest quickly, for about a quarter, there's some evidence that you can make a slightly higher return. For those investors, I think, go ahead and invest in active management.

"All of my retirement money is in index funds. I haven't paid much attention, and it's done well over the years, thanks to the work of capital markets and capitalism. For anyone like me, who isn't interested in constantly checking on their investments, I say stick your money in a well-diversified index fund and forget about it until the time comes to retire."

Berk describes winning the Samuelson Award as a signature moment, in no small part because of who the prize is named for—and who he shared it with. His co-author Richard Green died in 2015.

"Paul Samuelson is in the top five and, arguably, the top three economists that have ever lived. People like Samuelson, Kenneth Arrow, and Milton Friedman imposed a set of disciplining ideas that transformed economics from a bit of a joke into a real thing.

"When you write a paper, you always feel you're onto a major idea. Everybody's been thinking about this problem in the completely incorrect way, and if you think about it in the correct way, the world makes sense. But then the question is, do people appreciate it, or do they just go on with their lives?"

When something like the Samuelson Award comes around, it's a huge honor. That was a big deal.

“Rick was a phenomenal guy, one of the greatest friends and co-authors I ever had. And the longer it goes, the more I miss him.”

¹ Morningstar, “2024 US Fund Fee Study,” May 2025.

“Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds”

The Review of Financial Studies, 2010

James J. Choi

Yale School of Management

David I. Laibson

Harvard University, Department of Economics

Brigitte C. Madrian

Harvard University, John F. Kennedy School of Government

WINNING PAPER: 2011

OVERVIEW

An S&P 500 index fund is essentially a commodity. But even in a competitive market that offers many low-expense options, some investors still pay unnecessarily high fees for index funds. This 2010 paper explores why.

The real reason investors often pay too much in fund fees

In this conversation with Surya P. Kolluri, head of the TIAA Institute, James J. Choi, professor of finance, Yale School of Management, talks about how he and his co-authors went about testing investor sensitivity to mutual fund expenses (or lack thereof), shedding light on the mental errors investors are prone to make and contributing to the then-emerging field of behavioral finance.

The following comments on the paper have been edited for clarity.

“**O**ur research group started talking about what kind of recommendations we should be giving people about their investments. If you were going to create a chart—think of a classic food pyramid—what advice would it contain? It turns out it’s fairly difficult to come up with universal principles, but we thought choosing

a low-fee index fund would be high on the list. Many investors and educated individuals look past fees and focus on elements outside of their control. We wanted to test how we could move the needle to make more individuals choose low-fee funds.

“Thinking that choosing low-fee index funds was way too obvious, we started off with an experiment using actively managed small-cap value funds. We gave business students from the University of Pennsylvania a hypothetical \$10,000 to invest, letting them pick from some funds that had very high sales loads and others that had lower loads. Even though managers’ stock-picking skills might vary across funds, we thought there’s no way any of them could be expected to outperform by more than the size of the sales load. But it turned out that the students did not do a very good job at avoiding fees.

“We ran the experiment again using S&P 500 index funds, making subjects’ experimental payoffs depend substantially on the actual subsequent returns of their chosen portfolios, and we expanded the subject pool to Harvard staff members as well as students. The test subjects still largely showed an inability to make the most rational choice by minimizing fees.

“In the real world, higher fees might be associated with access to non-portfolio services like financial advice, which could justify paying those fees. In our experiment, subjects didn’t get access to such services, so there was no justification for choosing a higher-fee fund.

“We had curated the menu of index fund options so that high annualized returns since inception correlated with high fees. Chasing high annualized returns since inception meant picking the wrong portfolio. But people were easily misled. They were overly fixated on historical returns.

“We also tested an information intervention that made the fees on the index funds more salient than they are in a mutual fund prospectus. This caused subjects to choose moderately lower-cost portfolios, although it didn’t get them close to perfectly minimizing fees.”

Around the time that Choi, David Laibson, and Brigitte Madrian were exploring fund fees, the field of behavioral finance was gaining traction. Since Daniel Kahneman and Amos Tversky proposed prospect theory in 1979 and Richard Thaler introduced the idea of mental accounting a year later, the question of how ordinary investors behave had become a central focus for many economic researchers.

“We had long been in an era where academics had defended the perfect rationality of people, at least when the economic stakes were high enough. There was an upstart rebel insurgency focused on arguing that even intelligent people can err when making important decisions. And we proved that to be the case for mutual fund fees. I think that our paper contributed to this growing realization in the economics profession that people make plenty of mistakes in their financial lives.

“Our experiment was also in part about intervening. We didn’t just want to look and see that the participants did the

wrong thing and shake our heads. We wanted to see how we could help them make better choices. That has been something that we have continued to think about.”

The idea that retirement account design can nudge people toward better investment choices has been behind several recent policy changes, including the 2007 rule allowing target-date funds to be the default option for auto-enrollment in workplace retirement plans and the provision in the 2022 SECURE 2.0 Act mandating that new 401(k) plans auto-enroll employees.

“Sometimes there can be too much of a disconnect between the research that academics do and work that is tangibly trying to improve the lives of our fellow citizens. The Samuelson Award manages to bridge ideas and the needs of real people.

“The 2006 American Finance Association Presidential Address by John Campbell, a two-time winner of the Samuelson Award, was a seismic event in our profession.¹ In his speech, Campbell argued for the importance of researching household finances. It was a norm-defining moment when this incredibly distinguished figure declared that household finance is ‘real’ finance.

“The Samuelson Award was ahead of its time in elevating academic thinking that promotes lifelong financial security for the ordinary household. The award really was a torchbearer during that period before household finance and behavioral finance were considered squarely in the center of finance research.”

Since Choi, Laibson, and Madrian published this paper, mutual fund fees have dropped. Morningstar reports that the average expense ratio paid by investors fell from 0.83 percent in 2005 to 0.34 percent in 2024.² And sales loads are far less common: In 2023, 92 percent of gross sales of long-term mutual funds went into no-load funds without 12b-1 fees, compared with 59 percent in 2005.³

¹ John Y. Campbell, “Household Finance,” *The Journal of Finance* 61, no. 4 (August 2006): 1553–1604.

² Zachary Evens, “Fund Fees Are Still Declining, But Not as Quickly as They Once Were,” Morningstar, May 28, 2025.

³ Investment Company Institute, “Mutual Fund Expense Ratios Have Declined Substantially over the Past 27 Years,” March 21, 2024.

“Does Aggregated Returns Disclosure Increase Portfolio Risk Taking?”

The Review of Financial Studies, 2017

John Beshears

Harvard University and NBER

James J. Choi

Yale University and NBER

David I. Laibson

Harvard University and NBER

Brigitte C. Madrian

Harvard University and NBER

WINNING PAPER: 2017

OVERVIEW

To what extent is an investor’s willingness to take risk influenced by seeing their investment returns? Building on previous behavioral finance studies that looked at different types of financial disclosures and risk-taking, the authors of this paper test investing behavior under conditions closer to the real world.

Putting the impact of disclosures on investor behavior to the test

Several behavioral finance studies have shown that people tend to take more investment risk if they see their returns less frequently, view returns for their entire portfolio rather than for individual holdings, and look at longer-term results. In this conversation with David P. Richardson, head of research at the TIAA Institute, John Beshears, associate professor of business administration, Harvard Business School, talks about how he and his colleagues tested the impact of disclosures, what they found, and potential ways for financial institutions to influence investor behavior.

The following comments on the paper have been edited for clarity.

“**T**he theory is that aggregated disclosures decrease the likelihood that, at the end of the day, you’re going to see a loss since, over time, gains may offset losses. As a result, investors are less likely to reduce their stock allocations.

“The evidence up until this point was quite compelling. But

previous studies were conducted in universities using student populations, often in one short laboratory session. And the returns shown in those studies may be quite different from those of typical financial assets. We wanted to examine what influence return disclosure has in a more realistic environment, one closer to what investors may actually experience.”

To create more realistic conditions, the researchers recruited people from a cross-section of the US adult population rather than from a student body. Each participant was given \$325 to allocate across four real mutual funds, including a US stock fund, a foreign stock fund, a US bond fund, and a money market fund. The study subjects were free to reallocate their portfolio over the course of a year. The researchers introduced variations, including randomly assigning different types of online disclosures to the participants. Half were asked to view overall portfolio returns over different time periods. The other half saw returns for individual assets. And in other variations, the researchers provided historical returns.

“We were frankly surprised that none of these different forms of return data had any impact on risk-taking. The one nuance was that participants who were shown the historical returns of US equities increased their allocation to that asset by 11 to 12 percentage points. But being shown the historical returns of international stocks led participants to reduce their allocation to that investment. So there was no net change in participants’ total equity allocation.

“There were concerns that more frequent disclosure would make people uncomfortable about taking risk. But our evidence indicates that there’s a lot less to worry about as you give

people more frequent information. It does not seem to be exerting the influence on their risk-taking that one might have been concerned about, regardless of the returns.

“The prior studies were convincing, but there can be surprises when the results of tightly controlled experiments are translated into everyday environments.”

Another goal of this study was to drill down into the psychology of financial decision-making and connect it to the practical implications for a financial institution designing a policy for sharing investment outcomes with its investors. In practice, would financial institutions be able to influence risk-taking through disclosures?

“Our findings show that if the goal is to encourage investors to stick with a long-term perspective, the solution is not to reduce the frequency of return disclosures. Instead, financial institutions may want to focus on managing investors’ emotional reactions to major events, such as a market drop.

“There are other behavioral strategies that have proven to be successful, including prompts and reminders to boost saving. And there’s the use of defaults in 401(k) plans, which automatically put investors into a diversified portfolio, such as a target-date fund, unless they opt out. Defaults can be one of the most powerful tools we have for influencing behavior in ways that we think best serve the interests of retirement plan participants. And target-date funds are one of the great innovations of the past couple of decades. Those are the types of tools that we should be looking at to influence these important investment decisions.

“Winning the Samuelson Award was a wonderful surprise. I was well aware of the monumental work that had previously won the prize, such as John Campbell and Luis Vicera’s *Strategic Asset Allocation* in 2002, Richard Thaler and Shlomo Benartzi’s “Save More Tomorrow” paper in 2004, and Brigitte Madrian and Dennis Shea’s “Power of Suggestion” paper in 2001. Those studies are what really got me hooked on researching individual decision-making when it comes to retirement savings. So being in that group is quite an honor.”

“Retail Financial Innovation and Stock Market Dynamics: The Case of Target Date Funds”

The Journal of Finance, 2023

Jonathan A. Parker

Massachusetts Institute of Technology Sloan School of
Management and NBER

Antoinette Schoar

Massachusetts Institute of Technology Sloan School of
Management and NBER

Yang Sun

Brandeis University

WINNING PAPER: 2024

OVERVIEW

By establishing an age-appropriate portfolio allocation and gradually adjusting it based on an investor’s planned retirement date, target-date funds have become the dominant retirement savings option. In this paper, the authors consider what that has meant for the overall market.

How the shift to target-date retirement funds is changing the market

After a 2006 law allowed defined-contribution plans to make target-date funds (TDFs) the default investment option, these all-in-one stock/bond/cash portfolios took off. By 2024, TDFs held more than \$4 trillion in assets across both mutual funds and collective investment trusts.¹ In this conversation with TIAA Institute senior economist Brent J. Davis, Jonathan A. Parker, the Robert C. Merton Professor of Financial Economics at MIT Sloan School of Management and a research associate at the National Bureau of Economic Research, talks about the growing influence of TDFs.

The following comments on the paper have been edited for clarity.

“**E**conomists have long pondered what should happen to investment portfolios over a lifetime. Quantitative models suggested that if you started investing early in your working life, you could take quite a high amount of

risk. Being somewhat aggressive was usually optimal. Then, as you approached and entered retirement, you needed to take less risk because there was less time to rebuild your wealth if there were a few bad years in the stock market. What investors needed was something that looks very much like the typical glide path of a target-date fund.

“If the stock market declines, someone who should have 75 percent of their wealth in stocks may now have only 70 percent. To get back to the prescribed allocation, a target-date fund must sell some of the bonds in the portfolio and buy stocks. That means the fund is purchasing stocks after prices go down—buying low—and unloading shares when the market booms—selling high. That’s an enormous shift in the way the typical retirement saver acts.”

Most employers use target-date funds as the default investment option in their 401(k) plans—a full 86 percent did in 2023.² Target-date fund investors appear to remain passive. One study found that during the pandemic-driven market drop in the first quarter of 2020, only 2.4 percent of target-date fund investors made portfolio changes (versus 5.6 percent of total 401(k) participants).³

“Because TDFs maintain a constant share in stocks at each age, they pursue a market-contrarian investing strategy. We wondered what that might mean for how the capital markets work. Most people who own target-date funds are indeed very passive, even when the markets make large moves. Because they don’t trade, the only impact on markets comes from what the target-date funds do to allocate investors’ money into an appropriate mix of stock and bond funds.

“We found that target-date funds trade against market movements as we expect: They buy when stock prices are lower and sell when they’re higher. For the equity funds that TDFs invest in, rather than money flowing out when the stock market’s performance is down, it flows in. The effect of the automatic adjustment of TDFs tends to stabilize flows into and out of the funds they hold.

“During the past 15 years, the growth of TDFs has changed not only the patterns of fund flows but also the patterns of returns. When we looked for the price impact on individual stocks, we found that when the market goes down, stocks owned by target date funds tend not to go down quite as much because the target date fund money is flowing in—and they tend to have lower returns than the market when stock prices rise. We speculate that if TDFs continue to grow or if the type of strategies they pursue spreads more widely, the contrarian trading of these investment strategies will start to have noticeable effects on aggregate market returns.”

Over the years, the merits of frequent rebalancing have been the subject of debate, with some arguing that investors should “let your winners run.” Parker explains what ongoing rebalancing by TDFs could mean to overall returns.

“Because of how TDFs are designed, investors might sometimes miss out on stock returns. Whether that’s the case depends on the difference between transitory and permanent returns. Roughly half of the volatility in the stock market is because of fundamental changes that are permanent. These are due to changes in average dividends. But the other half

comes from transitory movements in stock prices unrelated to dividends, and when a target date fund trades against these movements, that tends to raise average returns.

“In contrast, if the stock market rises due to a permanent increase in dividends, those dividends are now a more important source of future wealth, and investors probably should hold more of their portfolio in the stock market. That is, investors should hold slightly more in equities at every age when dividends grow relative to expected future coupon and interest payments from bonds. Therefore, it’s possible that we could be more sophisticated in how TDFs are designed so that they respond differently to price changes in the market that are likely to be permanent.”

Since this paper was published, others have followed up. A paper Parker wrote with Yang Sun showed similar contrarian trading patterns by TDFs during the pandemic-related market crash and rebound, helping to stabilize the markets and dampen swings in returns.⁴

“Since I was a graduate student at MIT in the late 1990s, I’ve been working on questions of life cycle saving and investing behavior, and our paper was a culmination of much of that research. Although I didn’t overlap with Paul Samuelson at MIT, it was very special to receive an award named for the founding member of the modern MIT economics community.”

¹ Morningstar, “2025 Target-Date Fund Landscape.”

² Plan Sponsor Council of America, “PSCA’s 67th Annual Survey of Profit Sharing and 401(k) Plans,” December 2024.

- ³ Alicia Munnell, “Few 401(k) Participants Changed Portfolio Allocation When Market Tanked,” Center for Retirement Research, February 23, 2021.
- ⁴ Jonathan A. Parker and Yang Sun, “Target Date Funds as Asset Market Stabilizers: Evidence from the Pandemic,” *Journal of Pension Economics and Finance*, 24, no. 1 (January 2025): 183–208.

4

Institutions, Policy, and Shocks

The Architecture of Retirement

Behind every retirement decision lies a complex web of institutions, incentives, and intergenerational commitments. As Americans live longer and public systems absorb mounting fiscal pressures, questions about how we fund, structure, and sustain retirement have moved to the forefront of economic debate. The Samuelson Award-winning works in this section explore the economic policy and history that underpin retirement, examining how policy design, financial innovation, demographic shifts, and political dynamics shape individual outcomes and national priorities.

This body of work spans nearly a century of economic thinking and historical experience, from the nineteenth-century origins of retirement as a social construct to contemporary challenges posed by incomplete markets, ballooning entitlement costs, and sudden economic crises. Unlike traditional household finance research, which often focuses on individual decision-making, these papers address the systems and outside forces that define the boundaries of those choices: fiscal institutions, social insurance programs, tax structures, political negotiations, and long-term economic risk.

Some contributions take a generational view, tracing how retirement itself emerged as a viable stage of life. Dora Costa's 1998 landmark book *The Evolution of Retirement* blended demographic data, labor force participation records, and family economics to tell a sweeping story of transformation. Her work illuminated how retirement shifted from being rare and involuntary to widespread and expected, driven not just by age but by rising incomes, changing norms, and evolving

government policy. Costa's perspective reminds us that the retirement system is not static. Rather, it is a living institution, reshaped continually by economic growth and social consensus.

Other works sounded alarms about structural risks. Carmen Reinhart and Ken Rogoff's 2009 book *This Time Is Different* confronted the repeated failures of governments and markets to heed the lessons of history. Through a comprehensive catalog of financial crises, the authors highlighted the dangers of excessive public borrowing and investor overconfidence, patterns that threaten the sustainability of public pension promises and long-term fiscal stability. Their findings underscore how retirement policy cannot be viewed in isolation; it is deeply linked to broader macroeconomic conditions and events.

The vulnerability of retirement systems was also at the heart of 1999's "Social Security Money's Worth" by John Geanakoplos, Olivia Mitchell, and Stephen Zeldes and 2012's *The Predictable Surprise* by Sylvester Schieber. Both provided prescient overviews of the looming shortfalls in Social Security. Written well before today's peak-retirement era, these works outlined how demographic reality has collided with political inertia to create a crisis that was decades in the making. Far from a sudden emergency, the challenges they documented were visible—and largely ignored—long in advance. Their contributions offer sobering case studies of the costs of delay and the importance of proactive reform.

Several works in this section examine the institutional mechanics that determine how resources are raised and

distributed across time. Eugene Steuerle's 2014 *Dead Men Ruling* offered a provocative diagnosis of fiscal gridlock in the United States. He argued that budgetary decisions are increasingly constrained by the past, that is, by promises made to earlier generations through entitlement programs and tax subsidies. The result is a public finance system with little room for innovation, adaptation, or investment in the future. Steuerle's argument is not merely about budgets; it is about values, priorities, and the need to rebalance generational equity in a changing society.

From a theoretical perspective, Peter Diamond's seminal 2002 work *Taxation, Incomplete Markets, and Social Security* provided the analytical underpinnings for many later policy proposals. He modeled how social insurance functions in a world where individuals face uncertainty, lack perfect foresight, and cannot fully insure against major risks. Diamond showed that pay-as-you-go systems, while sometimes maligned, can play a valuable role in smoothing consumption and spreading risk, especially in the absence of complete financial markets. His contribution remains foundational in understanding the trade-offs and mechanics of retirement system design.

Two recent papers provided a more micro-view, evaluating the impact of a policy change. Peter Ganong and Pascal Noel's "Liquidity versus Wealth in Household Debt Obligations" brought this theoretical lens into modern empirical focus. In their 2020 study examining policy during the Great Recession, they found individuals are less likely to default on mortgage debt when their liquidity improves than when their wealth

changes, implying cash-at-hand matters more for day-to-day financial decisions than net worth. Finally, Mark Egan, Shan Ge, and Johnny Tang's 2022 paper "Conflicting Interests and the Effect of Fiduciary Duty" presented a micro-view on the impact of one policy change, showing how financial policy can impact product offerings in the financial marketplace.

Across these eight contributions, three themes emerge. First, retirement is not simply an individual life stage: It is a societal commitment shaped by historical precedent, political economy, and macroeconomic policy choices. Second, demography is destiny: An aging population exerts powerful and predictable pressures on fiscal systems, labor markets, and public trust. Third, institutions and policy matter. Whether designing annuity products, allocating tax expenditures, or forecasting system insolvency, these works remind us that long-term outcomes hinge on the institutions we build and the courage with which we update them.

These authors illuminate the tension between sustainability and adequacy, between political reality and actuarial math. In doing so, they continue Paul Samuelson's legacy: using economic insight to frame the big questions, explore the institutional levers of change, and challenge us to build retirement systems that are not just solvent, but also just, resilient, and forward-looking.

Jeffrey R. Brown

*Dean Emeritus and Professor of Finance at the
University of Illinois Gies College of Business*

*The Evolution
of Retirement:
An American Economic
History, 1880-1990*

University of Chicago Press, 1998

Dora L. Costa

Massachusetts Institute of Technology

WINNING BOOK: 1998

OVERVIEW

The first comprehensive economic history of retirement in America, this book examines the factors driving the dramatic increase in the retirement rate over the late nineteenth and early twentieth centuries. In doing so, it also sheds light on topics such as rising incomes, the nature of work, health and longevity, and the development of a retirement lifestyle.

How today's idea of retirement became a reality

Through the latter years of the nineteenth century, most people continued working as long as they were physically able. As Dora L. Costa, now Kenneth L. Sokoloff Chair in Economic History at UCLA, explained in her book *The Evolution of Retirement*, labor force participation for men age sixty-five and older peaked in 1880, when agriculture was the primary occupation, and 78 percent of that population was still working. By 1900, the figure had fallen to 65 percent, and it continued to decline throughout the twentieth century, as Social Security and private pensions enabled more people to retire. In 1990, less than 20 percent of those sixty-five and older still worked full-time. In this conversation with David P. Richardson, head of research at the TIAA Institute, Costa explores how today's image of retirement came to be.

The following comments on the book have been edited for clarity.

“Part of my motivation for starting to work on this book in the mid-1990s was the growing concern about retirement. We were seeing the demographic bulge created by baby boomers beginning to retire and by people in general retiring earlier and spending larger parts

of their lives in retirement. This was raising serious fiscal concerns about Social Security and how to pay for having more and more people in retirement for longer and longer.

“In 1900, the Union Army pension program was the most widespread form of assistance to the elderly, and it served about one-quarter of the population. As I began work on my book, one of my questions was just how large an impact those pensions could have had on veterans' retirement rates. I found that the availability of retirement income did indeed prove to be a very powerful inducement to leave the labor force. Much of it has to do with leisure. The higher your income, the more leisure you were able to experience, and then if you wanted more of it, maybe you would retire. Rising wealth in general, and now having tax advantages for retirement savings, continues to enable and encourage people to retire.

“Another point I make in the book is the extent to which Social Security equalized retirement. With that additional income suddenly available, a large group of people who would never have been able to retire could afford to leave the workforce, and often these were lower-skilled, lower-income workers. At the same time, older people with more skills and higher incomes were the ones more likely to remain in the labor force.

“Today, of course, there's growing pressure on Social Security, and that could affect the ability of future workers to retire. One thing that could help is reforming the H-1B visa system, so it's not tied to employers and is structured in a way that encourages younger workers and allows them to take a

job anywhere. You want high-skilled and highly paid people in the Social Security system. Some workers are currently exempt from paying into the Social Security system. We can bring those workers in. And there's room for raising the amount of wages subject to Social Security payroll taxes. We've done this before, but in today's political climate, it will be difficult to get anything done."

Costa also explored the question of what retirement was like for those who increasingly were able to stop working. Early on, retiring often meant giving up independence and moving in with your children. Yet by the 1920s and '30s, the possibilities were expanding. Retirement communities sprang up, highways and rail travel improved, and people began to migrate to California and the southeast. Those who had spent most of their days on the job found themselves with time for recreational pursuits, including travel, leisurely meals, gardening, and shopping.

"Today, after all these changes, another question emerges: How do you take your pleasure? There are very high returns for being fully in the labor force during your middle years, when your earning power is at its peak. But then later, when you have the opportunity to retire, it gives you the chance to do a lot of things that you haven't had time for. If you like leisure, you want to take more of it, and that becomes something you feel entitled to—you've worked hard, and you deserve to be able to enjoy yourself. Just look at what happened in France when the government tried to push through retirement cutbacks. You saw complete outrage."

Since the publication of Costa's book in 1998, there has been a continuing evolution in who can retire—and who may not want to.

According to surveys by the Employee Benefit Research Institute, three out of four current workers say they expect to continue to work for pay after they retire.¹ If that actually happens, workforce participation by older people could rise significantly, reversing the long trend that Costa explores in her book.

"Some of this may be a function of people continuing to work because of their financial situation. Yet I think much of it may involve finding an answer to that question of how you want to spend your retirement. Many people want to do things that they enjoy, and that may include continuing to interact with people, perhaps working at a new kind of job, or putting their artisanal skills to work in a new way. You're getting paid for it, but you're also doing it voluntarily. That may seem new, but I think it really just continues the evolution we've seen during the past century and a half."

¹ Employee Benefit Research Institute and Greenwald Research, "2025 EBRI/Greenwald Research Retirement Confidence Survey," September 2025.

“Social Security Money’s Worth,” in *Prospects for Social Security Reform*

University of Pennsylvania Press, 1999

John Geanakoplos

Yale University

Olivia S. Mitchell

The Wharton School of the University of Pennsylvania

Stephen P. Zeldes

Columbia Business School, Columbia University

WINNING PAPER: 1999

OVERVIEW

This research, first published in a compendium of viewpoints on Social Security reform, assesses the costs and risks of then-current proposals to privatize Social Security and compares how various generations would fare under alternative systems of funding and providing retirement benefits.

The false promise of privatizing Social Security

In the 1990s, debates about the future of Social Security included proposals to let workers invest some of the money they were paying into the system. Allowing for private investment accounts, the thinking went, could offer the chance of earning higher returns in line with historical averages for US capital markets. In this conversation with TIAA Institute head Surya P. Kolluri, Stephen Zeldes, Frank R. Lautenberg Professor of Economics and Public Policy at Columbia Business School, discusses how he and his fellow authors explored the implications of such a change.

The following comments on the paper have been edited for clarity.

“**A**t the time we decided to write our paper, there was a big push to create private investment accounts for Social Security. The argument was that this would raise the rate of return for everyone. We posed these questions: Would a privatized Social Security system really do that? Would it pay a higher return than the 1 to 2 percent real return that most people received on the

money they put into the system? Couldn't you just invest everyone's money in the stock market and get a much higher return?

“To explore these questions, we looked at historical data to try to understand where the rate of return numbers came from. Social Security was set up as a pay-as-you-go system. Workers paid into the system and then took money out in retirement. But the earliest generations of seniors, after Social Security was established in 1935, received much more than they paid in on a present value basis. Even those who had worked only a few years still collected substantial retirement benefits.

“Those early retirees got Social Security benefits that were disproportionate to their contributions. Under a pay-as-you-go system, the impact of that policy decision is that you're going to have less money for the subsequent generations. The Social Security trust fund can help cover some of the payments to later retirees, but the fund is relatively small. If you give a higher rate of return to the early generations, you must give a lower rate of return to the later ones. The rate of return has to average out over the long run.

“Our work for this chapter examined the consequences of providing larger payments to early beneficiaries. What we discovered in subsequent work is that it wasn't just the very early generations who got a good deal. The increase in longevity and the fact that Social Security provides lifetime income mean that returns, calculated for today's longer life spans, have been pretty high for subsequent generations, too.”

By the late 1990s, proposals to privatize Social Security were gaining traction. During the 1996 presidential race, candidate Steve Forbes argued for an IRA-type approach to reforming Social Security. In 1997, the Advisory Council on Social Security issued a plan that included individual savings accounts.¹ But Zeldes notes that shifting the system to private accounts must account for the benefits that have already been earned.

“The idea of giving stock market returns to people who are paying into the system now could work only if you shut down the system and decided not to give any money to the people who have accrued benefits over their working lifetimes.

“If you wanted to keep paying those benefits and you also wanted to let current workers earn stock market returns, you would have a huge liability that would have to be financed somehow. Suppose you borrow all that money by issuing more debt. You would have to pay interest on that debt, and in our paper, we showed that the interest you would pay would exactly offset the higher rate of return for workers moving forward. Mathematically, it’s a wash.”

According to the latest Social Security Trustees Report, Social Security’s primary trust fund will run out of money in 2033. If Congress doesn’t act to address the shortfall, Social Security beneficiaries will see their benefits cut by 23 percent when the trust fund is depleted.²

“We were pleased to win the Samuelson Award, in particular because of its emphasis on the practical implications that economic research can have for everyday life. Social Security continues to be an important part of people’s lives, and many rely on it as their primary means of support in retirement.

“Now, as we enter a period where the ability of Social Security to provide promised benefits will be called into question, we as a society need to wrestle with the fact that we supported older people when we started this system—and that the money we spent to do that simply isn’t available now to pay benefits.

“One possibility that we have been thinking about is to segment off those funds and perhaps have a separate tax that’s raised outside of Social Security to cover that part of the shortfall. But whether that could be part of the solution, or we need to come up with other ideas, the urgency to do something will only increase between now and 2033.”

¹ Barry P. Bosworth and Gary Burtless, “Privatizing Social Security: The Troubling Trade-Offs,” Brookings, March 1, 1997.

² Center for Retirement Research at Boston College, “Social Security’s Financial Outlook: The 2025 Update in Perspective,” July 8, 2025.

Taxation, Incomplete Markets, and Social Security

The MIT Press, 2002

Peter A. Diamond

Massachusetts Institute of Technology

WINNING BOOK: 2003

OVERVIEW

Building on a series of lectures by the author, this book brings together optimal tax theory and the theory of incomplete markets to analyze Social Security, modeling how social insurance can function amid uncertainty, imperfect foresight, and the inability to insure against major risks.

A look back at a half-century of efforts to reform Social Security

Since its creation in 1935, Social Security has become one of the most consequential government programs in US history. But financial challenges are looming for the system, which today pays benefits to nearly 69 million Americans.¹ Here, Peter A. Diamond, an Institute Professor Emeritus at MIT and winner of the 2010 Nobel Prize in Economics, speaks with David P. Richardson, head of research at the TIAA Institute, about the genesis of his interest in social insurance and his decades of experience advising policymakers worldwide on pension and Social Security reform.

The following comments on the book have been edited for clarity.

“ I’ve had two main streams of research in my career. One has focused on optimal taxation theory, which involves asking questions like, ‘What is it you’re trying to do with the government budget? What is it you’re trying to do with taxes and with spending? And how do you use the answers to frame the underpinnings for policy?’ This interest goes back

to the first graduate class I taught on public finance at MIT in the 1960s, and I carried that mindset with me into Social Security, which is really a public finance topic. The second stream involves general equilibrium theory, which I first studied as an undergraduate. The question that stood out to me early on is, what happens if markets are incomplete? I started to explore the implications of that more deeply.

“These two strands of research both played important roles when I got caught up in Social Security analysis, beginning in 1974 when I was invited to join a congressional panel looking at the financial outlook for Social Security. That eventually led to a report for the Congressional Research Service, and I’ve stayed interested in Social Security ever since.”

In 1981, President Ronald Reagan formed the bipartisan National Commission on Social Security Reform—known as the Greenspan Commission—and tasked it with finding long-term solutions to the program’s deteriorating financial picture. Two years later, Reagan signed into law the Social Security Amendments of 1983, which made several significant changes, including gradually raising the full retirement age from 65 to 67 and making a portion of benefits taxable for higher earners.

“The next step for me happened with the collapse of the communist states in the 1980s. I found that fascinating. I contacted a colleague and said, ‘All of these communist countries have social security systems that are not going to be viable anymore. Would you like an analysis of a country?’ And I was told, ‘Yes, Poland!’

“I went to Poland, and the main debate there was whether

the country should imitate Chile, which under the Pinochet dictatorship had overhauled its social security system into a primarily defined contribution system. I was then invited to do an in-depth analysis of the Chilean experience, and that was followed by invitations to look at social security issues in several other countries, including China and Sweden.

“To come up with a viable solution to pension issues, the starting place is the question ‘what is a good system?’ To me, a good system is concerned about adequacy of retirement incomes and income distribution. It’s concerned about impacts on the labor market, both during working years and around the decision to retire. Given the uncertainty around mortality, rates of return on assets, and wage growth, that’s an inherently complex topic—and fun.”

Increased longevity, one of the factors putting financial pressure on the Social Security system, is also driving concerns about how Americans can finance long-term care. And while Diamond has not studied the insurance market in detail, he notes that tinkering with the private market is not a satisfactory solution to the problems of either long-term care or Social Security.

“I see parallels between addressing long-term care insurance and addressing Social Security. There’s no question that the same issues would come up, including the fact that people have different life expectancies, and those constantly change. We know that women, on average, live longer than men. Among men, high lifetime earners live longer than low lifetime earners. So how do we consider the implications of these and other factors to make the system equitable?”

“If we’re putting in place a new government institution that collects taxes throughout your lifetime to finance your eventual long-term care—and I think a new institution is the only way to do it—you’ve got all the same problems and complexities as Social Security, only more so, because the extent of needing long-term care, the predictability of it, and the relationship to mortality is an even harder problem to solve.”

Since the 1983 reforms, efforts to overhaul Social Security have gone nowhere. And without Congressional action, the two Social Security trust funds—Old-Age and Survivors Insurance and Disability Insurance—are projected to deplete their combined reserves in 2034.²

“Social Security is a topic that comes and goes, and the US has done nothing on the subject for a very long time. Back in 1983, there was a powerful incentive for Congress to pass something. Since then, the political parties have become much more uniform, making compromise more difficult.

“For Congress, acting early is obviously good economics. But it’s not good politics, because there’s nothing but bad news coming. I don’t know what’s going to happen when this comes together. But it will most likely be driven heavily by the relative political powers of the two parties in Congress and the way the debate gets framed for the public. Those will be the two critical elements to watch for.”

¹ “Social Security Beneficiary Statistics,” Social Security Administration.

² Social Security Board of Trustees, “2025 Annual Report to Congress,” June 2025.

*This Time Is Different:
Eight Centuries of
Financial Folly*

Princeton University Press, 2009

Carmen M. Reinhart

Peterson Institute for International Economics,
Washington, DC

Kenneth S. Rogoff

Harvard University

WINNING BOOK: 2010

OVERVIEW

Spanning sixty-six countries and eight centuries, this book explores government defaults, banking panics, spikes in inflation, and other events that were often dismissed with claims that “this time is different.” Not true, the authors argue. In fact, financial crises are universal rites of passage for all economies, rich and poor.

What we can learn from eight hundred years of financial history

When *This Time Is Different* first hit the bookshelves, the world was emerging from the global financial crisis of 2007–2009—the most severe economic downturn since World War II. In this conversation with Surya P. Kolluri, head of the TIAA Institute, Carmen M. Reinhart reflects on the inspiration for writing the book with co-author Kenneth S. Rogoff and why remaining vigilant to the signs of a potential crisis is as important as ever.

The following comments on the book have been edited for clarity.

“**K**en Rogoff and I first started on the idea of a book in 2003 when we were working together at the International Monetary Fund. We had done some work on sovereign defaults, which was a big issue at the time. Argentina had just defaulted, so that planted the early

seeds. My interest in the topic goes back several decades. I started my career on Wall Street just as Mexico defaulted on its debt in August 1982, and I saw the impact that crisis had elsewhere, including on US banks.

“Writing the book involved putting together a massive database on currency crises, debt crises, inflation crises, the whole range. Then, in the final stages of writing, the subprime mortgage crisis and the global financial crisis hit. At that time, the thinking was that these types of events happened only in emerging markets. They didn’t happen to us. Or maybe they happened to us, but not now, just in the distant past, like during the 1930s and the Great Depression and the banking problems back then. The crisis caught everyone by surprise, and the timing of the book enhanced public interest in this line of work.

“We were very inspired by Charles Kindleberger’s 1978 book *Manias, Panics, and Crashes*. He calls financial crises hardy perennials. You know they keep coming back. One of the big points we try to make in the book is that there are many varieties of crises, and they’re always with us in one form or another.”

Since the book’s publication, crises have continued to erupt around the world. In the wake of the COVID-19 pandemic, a wave of debt crises hit several low-income countries, including Sri Lanka, Lebanon, and Venezuela. In advanced economies, including the US, inflation catapulted to the highest levels in fifty years, brought on by massive supply chain disruptions and outsized government stimulus.

“One of the points we make in the book is that it’s like whack-a-mole. Crises pop up in different forms in different places globally. I teach a financial crisis course at Harvard, and what I say to my students is, ‘If you’re trying to predict the timing of a crisis, good luck.’

“But what we can talk about with greater confidence is what are the symptoms? And we do have troubling symptoms in the US now. The combination of higher debt and higher interest rates is creating difficulties that had been on the back burner. Debt servicing costs have once again become a big concern. In 2024, US debt service or interest expense as a percentage of US revenues was 12.2 percent. That was the highest among all the advanced economies and the highest since Greece in 2011.¹

“While I don’t see over the near term—we’re talking over the next few years—a big blowout sovereign default in an advanced economy, that doesn’t mean that other types of fragilities won’t become a bigger issue. With the inflation spikes since COVID, currency and fixed income markets have become more volatile. And financial market volatility, coupled with high debt, both public and private, can trigger a variety of financial crises, whether they’re large and systemic or whether they’re more contained.”

One of the troubling commonalities of financial crises is that while the signs often seem to be in plain view, the tendency is to overlook them or downplay their significance. For example, leading up to the 2007 subprime mortgage crisis, there were clear signals that the housing bubble had reached a dangerous

point. Similarly, before the dot-com bubble burst in 2000, technology stock valuations were sky high.

“Policymakers and market participants are always ready to dismiss signs of a potential crisis. And it’s not that the signals don’t emerge, such as a combination of slowing economic activity with high debt and overvaluation, be it in equities, housing, or commodities. The problem is the willingness to discount the symptoms or explain them away by saying, ‘Oh, if you look at previous crises, things have changed structurally.’ The book’s title, *This Time Is Different*—and we meant it ironically, of course—is a mantra of sorts that comes up again and again.

“Receiving the TIAA Samuelson Award has been a great source of pride and honor for both Ken and me. We typically have ultra-short bios, and in even the shortest version, it always appears. The award connects to things that matter to people’s financial lives in very real ways. It’s not abstract. It’s grounded in what the impact is for those of us trying to save for the future. Our book is about what happens to savings when crises erupt. So, the very nature of the award is very special.”

¹ Carmen M. Reinhart, “Monetary Policy and High Government Debt,” BIS 24th Annual Conference, June 24, 2025; data from IMF World Economic Outlook, April 2025; and author’s calculations.

*The Predictable Surprise:
The Unraveling of the U.S.
Retirement System*

Oxford University Press, 2012

Sylvester J. Schieber

Former Chair, Social Security Advisory Board

WINNING BOOK: 2012

OVERVIEW

This 2012 book explores the many fault lines of the US retirement system, including a Social Security funding crisis that has only worsened in the years since, and suggests prudent policy reforms that could bolster the financial security of all Americans.

Sounding the alarm about the retirement system's shortcomings

Over a five-decade career, Sylvester J. Schieber has divided his time between the policy and business worlds, including working as a benefits consultant and spending twelve years at the Social Security Advisory Board, three as chair. In this conversation with David P. Richardson, head of research at the TIAA Institute, Schieber talks about his award-winning book on flaws in the American retirement system and the greatest challenges facing Social Security today.

The following comments on the book have been edited for clarity.

“**D**uring my time on the Social Security Advisory Board from 1998 to 2009, I was an odd duck in the world of retirement policy. I was also in the consulting world, talking to employers who were sponsoring retirement plans about what their issues were. It seemed to me that somebody needed to adopt a macro view of the retirement system. I wanted to take a frank look at what was working, what the problems were, and what we needed to address.

“There’s a 1976 movie called *To Fly!* that played at the National Air and Space Museum in Washington, DC. In it, there is a canoeist going down the Niagara River. Above him, a balloonist can clearly see Niagara Falls coming up, though from the canoeist’s perspective, the river is docile. The balloonist screams down, ‘Danger ahead downstream! Get to shore, to shore! Whitewater downstream!’ That’s the way I was looking at the argument over whether we had a looming retirement crisis back in 1999, when I worked with John Shoven on a previous book about Social Security. From the canoe, it all looked beautiful and calm, but not from our perspective.

“In the years that followed, we still had done nothing about Social Security. The private pension system was falling apart, and there was skepticism over whether defined contribution plans were going to be a viable replacement. I thought this book could inform people of the problems at hand and show policymakers how to make the system more effective for future generations.”

In 2012, the year *The Predictable Surprise* was published, the Congressional Budget Office projected that the Old-Age and Survivors Insurance Trust Fund (OASI) would be exhausted in 2038.¹ Since then, Social Security’s financial outlook has worsened. The latest projection for insolvency is 2033, after which time payroll taxes will not be enough to pay full benefits.² Fixing the system, Schieber notes, may have to involve rethinking certain elements of the program.

“Automatic cost-of-living adjustments (COLAs), which were put in place in the 1970s, are part of the reason we’re having

financing problems. A former congressman I worked with used to talk about the exorbitant COLAs as not keeping up with the cost of living but actually keeping the cost of living up. Do we really need to give a full COLA to a couple who's getting \$100,000 in Social Security benefits when they've already got a pension and other assets?

“In 1939, Social Security added the spousal benefit because the workforce was mostly men. That's no longer the case, and spousal benefits are accruing primarily to higher-income couples. A benefit that made a lot of sense in the 1930s is now offsetting one of the primary purposes of the system, which is to benefit low-income earners. We should step back and think about how the world works today.”

While various Social Security reforms have been proposed, Congress has not yet seriously addressed the looming insolvency. The last legislation to save the system was passed in March 1983, just a few months before Social Security would have been unable to pay full benefits.

“Congress waited until the bomb was about to blow up before they decided to bury their political hatchets and get on with the business of fixing something crucial to the economic security of our whole society.

“Everybody's afraid to let go of what we have. We need to have an adult conversation about Social Security. There are politicians who do recognize what's at play and would like to figure out how to deal with it. How can we create the environment that lets us do something without the silliness of politics that we seem to revert to? It's a tough puzzle.”

Shoring up Social Security is especially crucial, Schieber notes, because of the decline in how many workers are covered by a pension plan and the limits of how much lower-income workers can realistically save in a defined contribution plan.

“Some people decry the dropping of defined benefit plans as the end of the world. I think that perception has been overblown. Probably 20 percent of people who started to work under a defined benefit plan ultimately ended up getting the benefit because of a long vesting period. Defined contribution plans are far more effective in allowing people to have career mobility and retain their accrued savings. The problem with them is that a contribution on an extremely low income is going to give you an extremely low benefit.

“We should concentrate on helping people save more, giving them ways to make their savings more secure while also helping them in the decumulation period. But if we want to get people out of poverty using retirement policy, we need to focus on bolstering their Social Security benefits.

“I have a technical term for when the Samuelson Award win was announced: I was gobsmacked. I was extremely surprised that somebody like me, who was completely outside the academic community, would be awarded the prize. I consider it one of the great honors of my career.”

¹ Congressional Budget Office, “The 2012 Long-Term Projections for Social Security: Additional Information,” October 2012.

² Center for Retirement Research at Boston College, “Social Security's Financial Outlook: The 2025 Update in Perspective,” July 2025.

*Dead Men Ruling:
How to Restore
Fiscal Freedom and Rescue
Our Future*

The Century Foundation Press, 2014

C. Eugene Steuerle

Richard B. Fisher Chair, Urban Institute

WINNING BOOK: 2014

OVERVIEW

This 2014 book documents the sharp erosion of what the author calls fiscal democracy—the ability of voters and their elected representatives in Washington to break the political logjam and make spending and tax decisions that reflect current needs and priorities and advance opportunities for all Americans.

What will it take to restore our nation's fiscal democracy?

Social Security, Medicare, Medicaid, and other programs provide retirement and healthcare benefits to millions of Americans. They're also consuming an ever-larger share of the nation's annual budget, while crowding out investments in other essential areas. In this conversation with David P. Richardson, head of research at the TIAA Institute, C. Eugene Steuerle, Institute fellow and Richard B. Fisher chair at the Urban Institute, examines the decades-long rise of mandatory spending and the consequent decline of actual policymaking.

The following comments on the book have been edited for clarity.

“I began working at the Treasury Department in 1974, starting with energy policy. I moved into tax reform, welfare reform, Social Security—you name it, I got involved. I've had this long experience working on a whole combination of budget, tax, and spending policy. When I

wrote *Dead Men Ruling*, I had come to realize that our federal budget, on both the tax and spending side, was increasingly dominated by policies and promises made a long time ago by legislators elected in the past—often decades past. And they were largely men, so I could be correct in calling it *Dead Men Ruling*.

“From about the mid-twentieth century on, Congress has been creating more and more government transfer programs, also known as mandatory spending or entitlement programs, because they were designed to be permanent. A number were set up to grow automatically each year, meaning their growth goes unchecked. The annual budget that Congress appropriates is increasingly dominated by these mandatory programs along with several tax subsidies, and that has all sorts of implications for the way policy is made. And the problem hasn't receded since I wrote the book back in 2014. It's gotten substantially worse.”

In fiscal year 2024, the US federal budget amounted to \$6.75 trillion, with mandatory spending programs like Social Security, Medicare, and Medicaid making up \$4.1 trillion of that. Revenues totaled \$4.92 trillion, resulting in a deficit of \$1.83 trillion. This means that the \$1.8 trillion Congress appropriated for all discretionary programs was financed almost entirely through increases in the nation's debt. Interest payments on that debt in 2024 totaled \$892 billion, representing 13 percent of the budget.¹

“One of the main ideas from the book is something I call the fiscal democracy index. This measures the share of federal revenues left over after mandatory spending and interest

on the national debt. In the early 1960s, this number was around 65 percent. By 2014, it had dwindled dramatically to around 20 percent. Today, it's in zero territory. This means the revenue the government collects has been pre-committed before the new Congress walks in the door.

“I recently published a follow-up to *Dead Men Ruling* called *Abandoned: How Republicans and Democrats Deserted the Working Class, the Young, and the American Dream*. In it, I get heavily into two dominant budget trends over the last forty or fifty years. On the tax side, we've had both tax cuts and tax increases, with modest cuts overall. But the main thing is we've cut taxes on capital income roughly by half. This includes the top personal tax rate coming down, the corporate rate dropping dramatically, and the estate tax going away for most.

“On the spending side, almost all the growth has gone to Social Security and healthcare. Domestic spending on programs that could help more people prosper—investments in human capital, like job training and apprenticeships, early childhood and higher education, programs to encourage first-time homeownership and private retirement savings—has been cut fairly significantly. It's not just growth in the nation's debt, although that's problematic. It's that Congress is increasingly squeezing out spending on almost anything other than Social Security and healthcare, while programs that could foster upward mobility have been largely neglected. What we've really cut out are almost all wealth-building programs that aren't for the wealthy.”

Recent surveys show that, in general, the public believes the federal budget is ripe for reform. At the same time, there's widespread support for many of its most resource-intensive programs. For example, one 2023 poll found that 60 percent of Americans believe the US government spends too much and is too inefficient. At the same time, a majority also said it spends too little in key areas, including education (65 percent), healthcare (63 percent), infrastructure (62 percent), and assistance to the poor (59 percent).² These conflicting perceptions make arriving at consensus challenging.

“Reform has to be comprehensive. You can't just single out a specific program or subgroup, such as Social Security or subsidies for sugar farmers. You need to look at everything in total. And you need to have budget constraints in place. Nothing works efficiently or fairly without them.

“My optimism is that every crisis creates an opportunity. And there have been other periods in history when Congress and the executive branch faced a substantial fiscal crisis. One time was in the late nineteenth century, when we were still basically relying on tariffs, which was an inadequate system for the fiscal needs of the time. Different crises than we have today, but eventually we solved them. I'm optimistic about what we can do as a people and what our democracy can do. But tough choices will have to be made.

“Both political parties are in a classic prisoner's dilemma. If they lead, they lose. That is, if they really try to deal with the takeaway side of the budget—tax increases and spending cuts—they risk getting voted out of office. However, our current fiscal crises are finally upon us. Social Security,

healthcare spending, the interest on the nation's debt, all these things will force decision-making soon. So now the big question is, what are those decisions going to be?"

¹ Office of Management and Budget and US Department of the Treasury, "Budget of the US Government and Monthly Treasury Statement."

² Associated Press and NORC, "Many dissatisfied with the government's spending priorities," March 29, 2023.

"Liquidity versus Wealth in Household Debt Obligations: Evidence from Housing Policy in the Great Recession"

American Economic Review, 2020

Peter Ganong
University of Chicago

Pascal Noel
University of Chicago

WINNING PAPER: 2021

OVERVIEW

Do people make financial decisions based on their wealth or on how much cash they have on hand? In this paper, the authors seek to answer that question by assessing the effectiveness of two types of mortgage assistance for struggling homeowners during the 2008 housing crisis.

Identifying the right lifeline for struggling homeowners

During the Great Recession, millions of Americans struggled to make mortgage payments, owed more than their homes were worth, and even lost their homes. In 2008, foreclosures jumped by 81 percent, as one in every fifty-four households got at least one foreclosure notice.¹ Pascal Noel, professor of finance, University of Chicago Booth School of Business, tells Brent J. Davis, a senior economist at the TIAA Institute, how the federal government addressed the crisis at the time, what he and his co-author learned about the effectiveness of the response later, and how those results could influence future economic policies.

The following comments on the paper have been edited for clarity.

“For those of us serving as policymakers during the Obama Administration—I was a junior staffer in the National Economic Council—the question was, what is the best way to help households dealing with financial distress?

“Should you reduce the face value of that debt or the total amount they owe over the life of their mortgage? Or should you just try to reduce their monthly payments for the next

three, six, or twelve months? That was a hot debate, and existing academic research offered little guidance. In the end, we did a little of both, but nobody was happy, least of all the President. He kept urging the housing team to come up with better policies.

“A few years later, Peter Ganong and I started diving into data from what we did during the crisis, looking for a better way to do this next time. Focusing on underwater borrowers who received mortgage assistance, we considered two approaches: principal reduction—an increase in wealth—with no change in monthly payments, and lower monthly payments—an increase in liquidity—with no change in principal amount.

“The results were stronger in favor of liquidity than I expected. Lower monthly payments had a significant effect in reducing defaults, while principal reductions had no impact. It turns out that what matters for households is the cash they have today. When people struggle to make payments, it’s not based on cold, calculated decisions about their house as a financial asset—it’s because they don’t have enough cash.”

An economic phenomenon called the wealth effect posits that when the value of people’s assets rise, they feel richer and therefore spend more money. Ganong and Noel’s research on the distinction between liquidity and wealth adds to that discussion.

“We also found that long-term housing wealth doesn’t affect your consumption as much as your mortgage payment does. There’s been research in other areas that’s trying to understand that wealth effect. Consumer spending, for

example, is driven more by what people have in a checking or savings account than by what they have saved for the long term, whether that's stock market wealth or their 401(k).

“Our paper was published in 2020, and with others pointing in the same direction, the research and policy communities have pretty much coalesced around the view that cash flow is what matters for struggling households.”

During the pandemic, the government response was very different from what happened during the Great Recession. Policymakers chose not to write off mortgage debt, which would have been costly for taxpayers and lenders. Instead, the government focused on liquidity, with direct cash payments to households and forbearance programs that temporarily paused mortgage payments. Not only was the fix less expensive, but it was also effective. Even though the unemployment rate rose sharply in 2020—reaching nearly 15 percent in April of that year—mortgage delinquencies rose only slightly before topping out in the third quarter and then dropping back down.²

“Knowing that when people default it's typically because of a cash flow shock could also help shape new policies aimed at stabilizing households and the economy. For example, should we design mortgages in a way to make households more resilient? That could mean longer terms—say, forty years rather than thirty—and smaller monthly payments. With added liquidity reducing the risk of default, banks might be able to accept smaller down payments, enabling people to build cash reserves. Such changes might mean that homeowners have less equity when they sell, but they've stayed in the house.

“Peter and I are currently looking at short-term volatility in labor income. In this country, we have set up systems to protect households from longevity risk. That's what retirement savings is all about. That's hugely important, but people also face risks during their working lives. We're finding that there's a lot more earnings volatility month to month than we had thought. People might have savings in their 401(k) to cover the long-term risks toward the end of their life, but too little in their checking account to buffer against risks they face in the moment. This suggests we should be doing more to help households deal with income volatility.

“We were thrilled to receive the TIAA Paul A. Samuelson Award. Working in the White House, we were continually pressured to find better answers to the housing crisis, and in many ways, that experience inspired this research. Research is something you tend to do alone or in a small team, spending long hours staring at data. It's hugely gratifying when the result is something that can help policymakers pull the right levers to support households through challenging times.”

¹ Reuters, “Foreclosures soar 81 percent in 2008,” January 15, 2009.

² Federal Reserve Bank of St. Louis, “Unemployment Rate” and “Delinquency Rate on Single-Family Residential Mortgages.”

“Conflicting Interests and the Effect of Fiduciary Duty: Evidence from Variable Annuities”

The Review of Financial Studies, 2022

Mark Egan

Harvard Business School and NBER

Shan Ge

Stern School of Business, New York University

Johnny Tang

Cornell SC Johnson College of Business

WINNING PAPER: 2023

OVERVIEW

Whose interests do financial advisors serve? Most who sell retail variable annuities are only required to recommend “suitable” products that fit their clients’ age and risk tolerance. In this paper, the authors explore what happened when it appeared that all advisors who recommend retirement products would be bound by a far more stringent standard.

The potential power of regulatory reform to help consumers

With nearly \$2 trillion in assets, variable annuities are an important retirement savings vehicle for US households.¹ These popular insurance products can provide retirement income based on the performance of the underlying investments. However, the advisors who sell them are not obligated to act in their clients' best interest when recommending one. In this conversation with Andrew Gellert, an economist at the TIAA Institute, Mark Egan, Mark E. Kingdon Associate Professor of Business Administration at Harvard Business School, explains why that matters.

The following comments on the paper have been edited for clarity.

“**T**here have long been concerns about conflicts of interest in the financial advisory industry. Most people who call themselves financial advisors are actually brokers. From a regulatory standpoint, they're held to a suitability standard rather than a stricter fiduciary standard. That means that as your broker, I'm not legally obligated to look out for your best financial interests.

“The problem is that financial advisors may be incentivized to sell products that benefit themselves rather than their

customers. We decided to explore that possibility in the variable annuities market. There was suspicion that commissions for brokers selling variable annuities could be quite high and that those steep payments influenced their recommendations.”

The first part of this paper documents how brokers respond to incentives to sell high-commission products based on an analysis of US Securities and Exchange Commission filings.

“What we found is that commissions for selling variable annuities go as high as 8 or even 10 percent. And although the client doesn't pay this commission—it's paid by the insurance companies—our research shows that in making recommendations to clients, brokers are about four times more sensitive to the size of the commission than to the quality of the variable annuity or the fees clients do pay. And brokers consistently recommended high-commission, high-fee variable annuities.

“In this market, just as the anecdotal evidence had suggested, there were large, meaningful conflicts of interest.”

In 2016, the Department of Labor proposed a rule that would hold brokers to a fiduciary standard when selling retirement-related products, including variable annuities. That would mean acting in a client's best interest, not simply recommending a “suitable” investment. For two years, it appeared the rule would go into effect. (Ultimately, it was struck down in court.) Egan and his fellow researchers explored what happened during that window.

“In anticipation of it taking effect, there were two big changes in the variable annuities market. Brokers sold fewer

high-expense annuities and emphasized lower-fee products that are better for their customers. And insurers altered their product mix, increasing the availability of low-commission, low-fee products.

“Why did insurers and brokers change their behavior in response to a proposed rule change—and why didn’t they go back to their old ways when the rule was scrapped? One reason was the possibility that the rule might return. Indeed, the Biden administration proposed a retirement security rule that attempted to address conflicts of interest.

“In addition, once insurers had created new products and brokerage firms had adopted new rules and guidelines for acting in clients’ best financial interests, it was difficult to roll back those changes—and not necessarily desirable. The change appeared to be good for business. In the paper, we cite anecdotal evidence from insurers’ annual 10-K filings in which some say they benefited from the proposed rule change by coming up with new, popular product offerings, while others that were less proactive said their sales suffered.

“The proposed rule helped many consumers become aware that their brokers weren’t being held to a fiduciary standard and didn’t have to serve their best interests. In the run-up to the rule being implemented, there was a big increase in client complaints related to broker behavior. This new awareness of the rules put pressure on insurers and brokers to provide better variable annuities.”

Since Egan’s paper came out, the Department of Labor has

issued a new rule clarifying who qualifies as a fiduciary when it comes to giving advice to retirement plan participants. That 2024 rule has been challenged in federal court and has not yet been implemented.

“When we started working on this project, we were thinking mostly about how the fiduciary rule would change incentives. We didn’t think about how it might change the scope of variable annuities that are available to consumers. It’s a nice example of where regulations actually improved the suite of products. That also, I think, raises a concern that poorly designed regulations could potentially result in a worse set of financial products.

“It was an incredible honor for our team to receive the TIAA Paul A. Samuelson Award. We’re proud of the work we did. We think it addresses important issues and offers new insights into the obstacles that people may face in trying to achieve a secure retirement. We are also proud to be in the excellent company of so many authors who have made essential contributions to understanding and solving the challenges of achieving financial security.”

There is often a large difference between annuities within retirement plans and retail variable annuities discussed in this paper. TIAA invented the variable annuity—CREF—in 1952. It has been free of commissions from the beginning and today is managed at cost, with expenses that are below the industry average.

¹ Federal Reserve Bank of St. Louis, “Variable Annuity Mutual Funds; Total Financial Assets (Market Value),” September 11, 2025.

Appendix

Highlights from award events

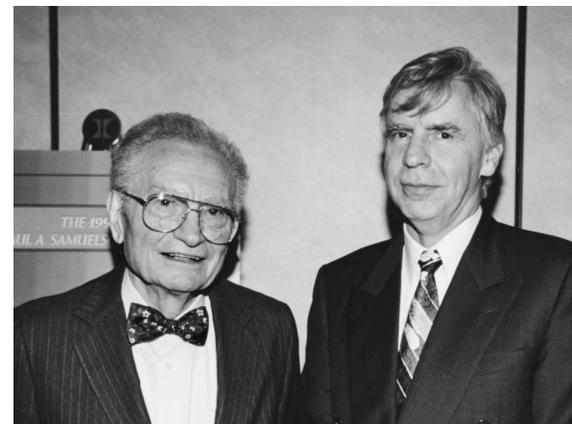
The winner of the TIAA Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security is traditionally announced at the annual meeting of the Allied Social Sciences Associations.



The Paul A. Samuelson Award, designed by Tiffany & Co.



PHOTOGRAPHS COURTESY TIAA ARCHIVE



Paul A. Samuelson with Jonathan Skinner (top), Robert Shiller (middle), and David Wise (bottom)



Left to right: David P. Richardson, TIAA Institute's head of research, with the 2018 winners, Michael S. O'Doherty, David C. Brown, and Scott Cederburg



Left to right: Michael S. O'Doherty, James Poterba, Scott Cederburg, and David C. Brown at the 2018 award ceremony



David P. Richardson and Olivia S. Mitchell at the 2023 award ceremony

DANIEL W. TORRES PHOTOGRAPHY



Left to right: Leora Friedberg, Conrad Ciccotello, Michael S. O'Doherty, David C. Brown, Scott Cederburg, Damon Jones, Brigitte Madrian, and John Beshears at the 2018 award ceremony



GCS PHOTOGRAPHY INC.

Left to right: Colleen Manchester, Gopi Shah Goda, and Annamaria Lusardi at the 2019 award ceremony



GCS PHOTOGRAPHY INC.

Left to right: Jeffrey Brown, Brent J. Davis, 2019 winner Lee M. Lockwood, and James Poterba at the 2019 award ceremony



DANIEL W. TORRES PHOTOGRAPHY (2)

CREF trustee James Poterba speaking at the 2023 award ceremony



DANIEL W. TORRES PHOTOGRAPHY

Surya Kolluri, head of the TIAA Institute, speaking at the 2023 award ceremony



DANIEL W. TORRES PHOTOGRAPHY

Left to right: The TIAA Institute's Surya P. Kolluri, Paul Yakoboski, Andrew Gellert, and Brent J. Davis at the 2023 award ceremony



DANIEL W. TORRES PHOTOGRAPHY

Left to right: 2023 winners Johnny Tang, Shan Ge, and Mark Egan with Surya Kolluri at the 2023 award ceremony



@EDINSTUDIO

Left to right: James Poterba, Scott Cederburg, Yang Sun, Antoinette Schoar, Andrew Gellert, and David P. Richardson at the 2024 award ceremony



@EDINSTUDIO

Left to right: TIAA economist Andrew Gellert with 2024 winners Antoinette Schoar and Yang Sun at the 2024 award ceremony

Winners of the TIAA Paul A. Samuelson Award for Outstanding Scholarly Writing on Lifelong Financial Security, 1996–2025

1996

Robert J. Shiller, Yale University, *Macro Markets: Creating Institutions for Managing Society's Largest Economic Risks* (Oxford University Press, 1993)

1997

John Y. Campbell, Harvard University; Andrew W. Lo, Massachusetts Institute of Technology Sloan School of Management; A. Craig MacKinlay, The Wharton School of the University of Pennsylvania, *The Econometrics of Financial Markets* (Princeton University Press, 1996)

1998

Dora L. Costa, Massachusetts Institute of Technology, *The Evolution of Retirement: An American Economic History, 1880–1990* (University of Chicago Press, 1998)

1999

John Geanakoplos, Yale University; Olivia S. Mitchell, The Wharton School of the University of Pennsylvania; Stephen P. Zeldes, Columbia Business School, Columbia University, "Social Security Money's Worth," in *Prospects for Social Security Reform* (University of Pennsylvania Press, 1999)

2000

Nicholas C. Barberis, University of Chicago, "Investing for the Long Run When Returns Are Predictable" (*The Journal of Finance*, 2000)

2001

John H. Cochrane, University of Chicago, *Asset Pricing* (Princeton University Press, 2001)

Christian Gollier, University of Toulouse, *The Economics of Risk and Time* (The MIT Press, 2001)

2002

John Y. Campbell, Harvard University; Luis M. Viceira, Harvard University, *Strategic Asset Allocation: Portfolio Choice for Long-Term Investors* (Oxford University Press, 2002)

Brigitte C. Madrian, University of Chicago; Dennis F. Shea, United Health Group, "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior" (*The Quarterly Journal of Economics*, 2001)

2003

Peter A. Diamond, Massachusetts Institute of Technology, *Taxation, Incomplete Markets, and Social Security* (The MIT Press, 2002)

2004

Robert M. Dammon, Carnegie Mellon University; Chester S. Spatt, Carnegie Mellon University; Harold H. Zhang, University of North Carolina at Chapel Hill, "Optimal Asset Location and Allocation with Taxable and Tax-Deferred Investing" (*The Journal of Finance*, 2004)

2005

Shlomo Benartzi, University of California, Los Angeles; Richard H. Thaler, University of Chicago, “Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving” (*Journal of Political Economy*, 2004)

Jonathan B. Berk, University of California, Berkeley; Richard C. Green, Carnegie Mellon University, “Mutual Fund Flows and Performance in Rational Markets” (*Journal of Political Economy*, 2004)

2006

Mark Aguiar, Federal Reserve Bank of Boston; Erik Hurst, University of Chicago and NBER, “Consumption versus Expenditure” (*Journal of Political Economy*, 2005)

2007

John Karl Scholz, University of Wisconsin–Madison; Ananth Seshadri, University of Wisconsin–Madison; Surachai Khitatrakun, Urban Institute, “Are Americans Saving ‘Optimally’ for Retirement?” (*Journal of Political Economy*, 2006)

2008

Jeffrey R. Brown, University of Illinois at Urbana–Champaign; Amy Finkelstein, Massachusetts Institute of Technology, “The Interaction of Public and Private Insurance: Medicaid and the Long-Term Care Insurance Market” (*American Economic Review*, 2008)

2009

George A. Akerlof, University of California, Berkeley; Robert J. Shiller, Yale University, *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism* (Princeton University Press, 2009)

2010

Carmen M. Reinhart, Peterson Institute for International Economics, Washington, DC; Kenneth S. Rogoff, Harvard University, *This Time Is Different: Eight Centuries of Financial Folly* (Princeton University Press, 2009)

2011

James J. Choi, Yale School of Management; David I. Laibson, Harvard University, Department of Economics; Brigitte C. Madrian, Harvard University, John F. Kennedy School of Government, “Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds” (*The Review of Financial Studies*, 2010)

2012

Sylvester J. Schieber, Former Chair, Social Security Advisory Board, *The Predictable Surprise: The Unraveling of the U.S. Retirement System* (Oxford University Press, 2012)

2013

John Chalmers, Lundquist College of Business, University of Oregon; Jonathan Reuter, Carroll School of Management at Boston College and NBER, “How Do Retirees Value Life Annuities? Evidence from Public Employees” (*The Review of Financial Studies*, 2012)

2014

C. Eugene Steuerle, Richard B. Fisher Chair, Urban Institute, *Dead Men Ruling: How to Restore Fiscal Freedom and Rescue Our Future* (The Century Foundation Press, 2014)

2015

Raj Chetty, Stanford University and NBER; John N. Friedman, Brown University and NBER; Søren Leth–Petersen, University

of Copenhagen and CEPR; Torben Heien Nielsen, University of Copenhagen; Tore Olsen, University of Copenhagen and NBER, “Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark” (*The Quarterly Journal of Economics*, 2014)

2016

Felix Reichling, Congressional Budget Office; Kent Smetters, The Wharton School of the University of Pennsylvania, “Optimal Annuitization with Stochastic Mortality and Correlated Medical Costs” (*American Economic Review*, 2015)

2017

John Beshears, Harvard University and NBER; James J. Choi, Yale University and NBER; David I. Laibson, Harvard University and NBER; Brigitte C. Madrian, Harvard University and NBER, “Does Aggregated Returns Disclosure Increase Portfolio Risk Taking?” (*The Review of Financial Studies*, 2017)

2018

David C. Brown, University of Arizona; Scott Cederburg, University of Arizona; Michael S. O’Doherty, University of Missouri, “Tax Uncertainty and Retirement Savings Diversification” (*Journal of Financial Economics*, 2017)

2019

Lee M. Lockwood, University of Virginia, “Incidental Bequests and the Choice to Self-Insure Late-Life Risks” (*American Economic Review*, 2018)

2020

Ralph S.J. Koijen, University of Chicago; Stijn Van Nieuwerburgh, Columbia University, “Combining Life and Health Insurance” (*The Quarterly Journal of Economics*, 2020)

2021

Peter Ganong, University of Chicago; Pascal Noel, University of Chicago, “Liquidity versus Wealth in Household Debt Obligations: Evidence from Housing Policy in the Great Recession” (*American Economic Review*, 2020)

2022

Adam Leive, University of California, Berkeley, “Health Insurance Design Meets Saving Incentives: Consumer Responses to Complex Contracts” (*American Economic Journal: Applied Economics*, 2022)

2023

Mark Egan, Harvard Business School and NBER; Shan Ge, Stern School of Business, New York University; Johnny Tang, Cornell SC Johnson College of Business, “Conflicting Interests and the Effect of Fiduciary Duty: Evidence from Variable Annuities” (*The Review of Financial Studies*, 2022)

2024

Jonathan A. Parker, Massachusetts Institute of Technology Sloan School of Management and NBER; Antoinette Schoar, Massachusetts Institute of Technology Sloan School of Management and NBER; Yang Sun, Brandeis University, “Retail Financial Innovation and Stock Market Dynamics: The Case of Target Date Funds” (*The Journal of Finance*, 2023)

2025

Taha Choukhmane, Massachusetts Institute of Technology Sloan School of Management; Lucas Goodman, US Department of the Treasury; Cormac O’Dea, Yale University, “Efficiency in Household Decision-Making: Evidence from the Retirement Savings of US Couples” (*American Economic Review*, 2025)

TIAA Paul A. Samuelson Award Judges, 1996–2025

Henry Aaron	Gopi Shah Goda	Joe Quinn
Julie Agnew	Richard Green	Uwe Reinhardt
George Akerlof	Martin Gruber	Jonathan Reuter
Vickie Bajtelsmit	Alan Gustman	Tom Rietz
Nicholas Barberis	James Heckman	Stephen Ross
John Beshears	Michael Hurd	John Rust
John Campbell	Erik Hurst	Andrew A. Samwick
Willard Carleton	Wei Jiang	Antoinette Schoar
Scott Cederburg	Eric J. Johnson	John Karl Scholz
John Chalmers	Damon Jones	Robert Shiller
James J. Choi	Camelia Kuhnen	John Shoven
Conrad S. Ciccotello	Judy Lave	Sita Slavov
Robert Clark	Lee Lockwood	James Smith
John Cochrane	Annamaria Lusardi	Robert Solow
Dora Costa	Brigitte Madrian	Ning Tang
Peter Diamond	Robert McDonald	Carly Urban
Gary Engelhardt	Marjorie McElroy	Stijn Van Nieuwerburgh
Amy Finkelstein	Olivia S. Mitchell	Jack Vanderhei
Price Fishback	Melinda S. Morrill	Luis Viceira
Edward Frees	Alicia Munnell	Robert Vishny
Leora Friedberg	Joseph Newhouse	David Wise
John Friedman	Mark Pauly	Stephen P. Zeldes
Paul Fronstin	James Poterba	