

INCREASED LONGEVITY AND THE ANNUITY SOLUTION: HOW RETIREMENT POLICY REFORMS CAN REDUCE LONGEVITY RISK

David P. Richardson
Principal Research Fellow
TIAA-CREF Institute

Christopher S. Spence
Senior Policy Analyst
TIAA-CREF Government Relations

EXECUTIVE SUMMARY

Americans have experienced a steady increase in longevity over the last 100 years. In the early part of the twentieth century, average life expectancy at birth was only 47 years, but today many people can expect to live into their eighties, nineties, or beyond. While the benefits of increased longevity are clear, it also presents the country with a number of issues that require serious consideration, including ensuring access to a secure and lasting stream of income in retirement.

Complicating the issue even further are the changes that have occurred in sources of retirement income. At one time, workers could rely on employer-sponsored retirement plans and Social Security to provide an adequate, secure, and lasting retirement income. Today, the future of Social Security is uncertain and many employers have replaced “traditional” defined benefit retirement plans, which generally provide workers with a guaranteed retirement income benefit based on salary and years of service, with 401(k)-type plans that are more focused on accumulating wealth and often neglect assisting participants with transitioning their retirement savings into retirement income. While providing individuals with choices for how to structure their retirement income is not necessarily a detriment, without access to appropriate income options or guidance, they run the risk of making uninformed decisions that could cause shortfalls in retirement.

There is an urgent need for products that will provide a stable and lasting income in retirement. Annuities are the most logical and valuable tool available to meet this need. Annuities are products that allow individuals to convert their savings into a guaranteed income stream at retirement and/or provide a guaranteed return while saving for retirement.



Expanding the use of guaranteed lifetime annuities provides a logical and proven solution to diversifying, and effectively managing, many of the risks retirees currently bear. These products should play an important role in ensuring future generations of retirees will have an adequate and secure income in retirement, regardless of how long they live.

This paper aims to highlight the important role of annuities in retirement planning and dispel some of the myths and misconceptions surrounding annuities. The recent financial crisis, during which many have experienced drastic drops in retirement accumulations and income, has jump-started the discussion about annuities as individuals look for safer, more secure investments. Policy makers, financial advisors and employers need to build on this momentum, move the discussion along, and place annuities at the forefront of the conversation on the future of retirement in America.

INTRODUCTION

One of the most notable achievements over the past century has been the increase in the average life expectancy of Americans. In 1900, life expectancy at birth was 45 years for males and just below 50 for females.¹ Today, men and women who survive to age 65 can expect to live, on average, up to age 83 and 86, respectively.² In addition, about one-third of women and one-fifth of men who live to age 65 will live to at least age 90 and there is a greater than 50 percent chance that at least one person from a 65-year-old couple will live to age 90.³ It is increasingly common to know, or at least know of, someone who has lived to age 100 or older.

While increased longevity highlights advances in medical technology and a thriving society, it also presents a number of public policy issues. One of the more obvious and important issues is ensuring all retirees have an adequate and secure income stream that will allow them to maintain a reasonable standard of living for the remainder of their lives. Add to this issue the fact that workers are retiring earlier (the average retirement age dropped from 68 in 1950 to 62 in 2000) and we have many Americans now spending over a quarter of their lives in retirement, and with further gains in longevity likely, this could continue to rise.⁴ The substantial increase in retirement years puts renewed pressure on advocating public policies designed to maximize the likelihood that retirement income lasts throughout retirement.

While the average length of time spent in retirement has been increasing, other changes have occurred that also affect household retirement security. In particular, a series of public policy changes that began in the late 1970s has transformed the U.S. retirement system from one where employers and governments typically assumed responsibility for most retirement-related risks to one where households now bear a large and increasing share of retirement funding, investment and longevity risks. Some of the most significant effects of these changes have been a decrease in the amount of guaranteed income retirees automatically receive and an increase in individual responsibility to not only save for retirement, but to also make decisions that will ensure these savings last throughout one's retirement. As a result, it has become increasingly important to make available products that encourage individuals to use their savings in a way that will ensure a secure retirement.

Encouraging and increasing the use of annuities in retirement planning is the logical solution to this problem. Annuities are financial instruments that provide guaranteed lifetime income and help reduce or prevent shortfalls in retirement income. Annuity products are currently available through a number of financial services companies and have a long and proven record of solving retirement planning issues. Despite their value, consumers and planners have typically tended to avoid using annuities in retirement planning. This is partly due to the undeserved reputation annuities have garnered through a combination of negative press,⁵ misinformation and preconceptions. However, the recent sudden and drastic reduction in individual retirement savings caused by the financial crisis is prompting many to reconsider the value of annuities.

1 Society of Actuaries (2006).

2 Society of Actuaries. (2006)

3 Society of Actuaries (2006).

4 Murray (2001).

5 Babbel (2008).

Much work needs to be done to change the long-held beliefs and attitudes about annuities. The goal of this paper is to highlight the benefits, dispel the myths, and argue for public policy changes that would provide incentives for the increased use of annuities in addressing longevity in retirement. Ultimately, we hope to encourage consumers, financial planners, policy makers, and plan sponsors alike to change their thinking and look first to annuities when seeking effective and valid options for providing individuals with adequate and secure lifetime retirement income.

CHANGES IN RETIREMENT PLAN STRUCTURE AND FUNDING

Employer-sponsored retirement plans are the principal source of building retirement savings for most workers. Since the passage of the Employee Retirement Income Security Act (ERISA) of 1974, there has been a significant change in the structure of plan types – in particular for private sector plans. The traditional defined benefit (DB) approach, which provides most retirees with a guaranteed retirement income benefit based on salary and years of service, is no longer the preferred structure for employer retirement plans. The more popular “alternative” has become the defined contribution (DC) approach, in which an employer (and often the employee) makes regular contributions to an account in the employee’s name, and typically provides substantial latitude to the employee in determining how to use accumulated funds in retirement.

In terms of responsibility, liability, and expense, the transition from DB plans to DC plans makes economic sense for many employers. Under a DB plan, employers bear the investment performance risk of plan assets and the longevity risk of ensuring their employees receive a promised income throughout retirement. In addition, employers bear the annual funding risk of ensuring the plan has sufficient assets to pay all promised benefits. By contrast, there is little risk for employers with a DC plan. Employers typically contribute to their employees’ retirement, but have substantial leeway in determining the generosity of their contribution. While they still take fiduciary responsibility for the plan, they bear neither the investment risk nor the lifetime income obligation of a DB plan. Rather, workers (and especially private sector workers) in a standard DC plan bear these risks. This is not to say that DC plans are a bad option for an employment-based retirement plan. Indeed, many workers prefer the features of a DC plan where assets are portable as they change employers, and they have greater ability to make choices about contribution rates, investment choices, and the structure of their retirement income.

However, the flexibility of DC plans can also increase the likelihood that workers and retirees, who often lack the knowledge to make informed financial decisions, will make choices that can adversely affect their retirement security. To address this concern, many DC plans now offer very effective planning tools to their employees during the accumulation phase of retirement. These tools are limited, though, by participants’ willingness to use them. In addition, many of these tools focus more on how to invest and how much to save during the accumulation phase, and provide limited guidance on how to use savings in a way that will provide for a lasting and secure income in retirement. This issue is often compounded by the fact that few plans offer lifetime annuities as investment or distribution options, putting the focus more on accumulating wealth than on producing retirement income. Adding annuities to a plan as an investment and distribution option can help participants meet retirement goals by providing them with the opportunity to receive guaranteed returns on savings and a guaranteed income in retirement.

Adding an annuity option to employer-sponsored plans is increasingly important given the long-term outlook for the Social Security system. According to recent projections by the Office of the Chief Actuary, the Social Security Trust Fund will be exhausted by 2037, at which time contributions will be sufficient to pay only 78 percent of promised benefits.⁶ While there are many proposals to bring the system back into actuarial balance, some form of benefit reduction remains a likely part of the solution. It is critical that younger workers planning for retirement today have access to other types of guaranteed income. Even if projections of future solvency were favorable, most individuals still need to supplement their Social Security income with other savings because benefits currently only replace about two out of every five dollars of pre-retirement income for the average retiree, and much less for many middle and upper income individuals.⁷ Overall, plan

6 Social Security Administration (2009).

7 Brown (2008).

annuity options would provide workers greater flexibility in structuring the guaranteed portion of their retirement income, given the uncertainty surrounding the Social Security system.

As life expectancies increase and traditional sources of guaranteed retirement income decline, U.S. workers face greater risk for funding an adequate and secure retirement. Lifetime income annuities provide the best solution for lessening the effects of this impending crisis. With the lukewarm response annuities generally receive, it will take a concerted effort on behalf of the industry and policy makers to move annuities to the forefront of retirement planning. A logical first step should be to undertake a campaign to clear up some misconceptions about annuities, increase understanding of the benefits of annuity income, and ensure that individuals have access to annuities in their retirement plans. As with past innovations to our retirement system, we are confident that workers will learn to rely on annuities as a valuable tool for making decisions that ultimately lead to a secure and comfortable retirement.

ADDRESSING COMMON CONCERNS ABOUT ANNUITIES

Despite the benefits that lifetime income annuities offer in closing the gap between retirement resources and need, numerous studies have found few consumers voluntarily annuitize their retirement savings.⁸ In a recent paper, Wharton Financial Institutions Center Fellow David Babbel reviewed more than 70 academic studies conducted since 1999 and found the consensus among professional economists is that “lifetime income annuities should definitely play a substantial role in the retirement arrangements of most people.” He concludes that annuities should comprise 40 to 80 percent of an individual’s retirement income, and those who are highly risk-averse or who do not plan to leave funds to heirs should consider being at the higher end of this range.⁹

However, life annuities continue to represent only a small fraction of retirement assets. A 2004 paper by Sondergald and Drinkwater found:

“Half of all individuals aged 50 to 75 with household financial assets of \$50,000 or more will need to tap into savings during retirement in order to pay for basic living expenses [and] nearly half of those people are interested in converting some of their savings into guaranteed lifetime income.”¹⁰

These research findings present a fundamental question – *If households have a demonstrated need and desire for lifetime income annuities and research concludes annuities provide greater retirement security, then why are annuities not more widely utilized in the United States?* A natural follow-up question is – *What can policy makers, plan sponsors, and financial service providers do to encourage the use of annuities within retirement plans?*

There are a number of reasons for the continued underutilization of annuities. The following sections highlight some of the more common concerns about annuities, offer some potential solutions, and discuss some potential retirement policy reforms that would enhance workers’ ability to achieve a secure and comfortable retirement by expanding workplace access to annuity products.

ANNUITY COST

A common concern for both workers and plan sponsors is that annuities are “high-cost” relative to alternative financial products. However, research indicates that while, as with any consumer product, some annuities are not priced competitively, there are many low-cost and highly rated annuity options available in the market.¹¹ A number of studies have shown that life annuities are reasonably priced and should be attractive to households.¹² In fact, pricing of lifetime income annuities has become more competitive over time because the average sales charge has decreased. Ten years ago,

⁸ See, for example, Brown, et al. (2008).

⁹ Babbel (2008).

¹⁰ Perun (2004).

¹¹ Mitchell, et. al. al. (1999)

¹² See for example, Mitchell, et. al. (1999) and Brown, et. al. (2000).

the average load (or sales charge), on an annuity was in the range of 6 to 10 percent, depending on the type of product. Since that time, the cost of purchasing an annuity has decreased about 50 percent and loads currently average from 3 to 5 percent. Most annuities are now priced very competitively, especially compared to the many mutual funds that offer no guaranteed income, have loads ranging from 5 to 8 percent, and annual expenses that can exceed 1 percent.¹³

Unfortunately, the tremendous variability in pricing and packaging of similar annuity products can result in confusion for the average worker and research indicates this uncertainty can result in underutilization of annuities even if households have strong demand and need for guaranteed retirement income.¹⁴ Public policy reforms can help reduce uncertainty about annuity pricing and the misconception that annuities are high-cost by harmonizing regulations governing annuities and requiring greater transparency in pricing. Harmonization could prove difficult to achieve given the current system of state-by-state regulation of the insurance and annuity markets. While Congress has taken some steps towards streamlining and harmonizing insurance industry oversight through its proposal to create an Office of National Insurance (included in the financial regulatory reform legislation) that would have limited regulatory authority, we encourage lawmakers to continue pursuit of a full-fledged federal insurance regulator in the form of an optional federal charter.

Reforms that result in greater uniformity and transparency for consumers will enhance the welfare of millions of future retirees. By requiring uniform disclosure of fees, expenses, surrender charges and investment returns, workers will be more informed and have greater confidence that an annuity will enhance their potential for achieving a secure and comfortable retirement.

ADVERSE SELECTION

Lifetime annuities provide protection against the possibility of outliving retirement resources simply because a person lives a long life. As a result, annuities tend to be more appealing to healthy individuals with longer life expectancies than to those in poorer health, which can inadvertently drive up the cost of annuities. Research indicates that this type of outcome, known as adverse selection, likely results in lower demand for annuities by those reporting poor health.¹⁵ In addition, research suggests annuities with higher loads are often the result of insurers being unable to adequately hedge against aggregate mortality risk due to the adverse selection problem.¹⁶

To address adverse selection, a broader group of individuals with varying life expectancies needs to be encouraged to enter the annuity market. This would increase annuity providers' ability to adequately address mortality risk and ultimately bring down the cost of annuities for everyone. While this outcome is logical and desirable, a purely private market solution faces a paradox well summarized in a recent Hamilton Project policy brief, which states, "Average retirees will find annuities to be a good value only when the pool of buyers increases, but the pool of buyers will not increase until annuities are a good value."¹⁷ For this reason, it is worthwhile to explore public policy reforms that provide creative and effective solutions to make annuities more affordable and attractive to future generations of American workers and retirees.

The Hamilton Project's automatic annuitization proposal for 401(k) plans offers one potential solution. Under this proposal, a portion of each employee's retirement savings is automatically converted to an annuity at retirement and a two-year trial period of monthly payments is initiated. Participants would have the ability to opt-out of the trial income period altogether or stop receiving the payments at the end of the trial period. An underlying goal of this proposal is to help retirees realize the benefits of receiving guaranteed monthly payments in retirement, but it could also increase the pool of annuitants and address some of the effects of adverse selection. This proposal has sparked much debate among policy makers and the annuity industry, but little agreement as to the reality of establishing such a plan on a widespread basis.

¹³ Babbel, (2008).

¹⁴ For an overview of these issues, see Brown (2007).

¹⁵ See, for example, Brown (2001) or Brown, Casey, and Mitchell (2007).

¹⁶ See, for example, Blake, Burrows and Orszag (2002) and Friedberg and Webb (2006)

¹⁷ Gale. et. al. (2008).

Another proposal that would help mitigate the effects of adverse selection suggests requiring all plan participants permanently convert at least a portion of their retirement savings into a lifetime annuity upon retirement. This would ensure an increased annuity pool, but it removes participant choice. While annuitizing some portion of retirement savings will be the right choice for most individuals, it should be a choice, not a mandate. An alternative to this proposal is simply requiring all retirement plans offer a guaranteed investment option during the accumulation phase and as a distribution option at retirement. This would preserve participant choice while ensuring access to annuities. Coupled with objective advice and education about retirement planning aimed at increasing understanding of the essential role annuities play in a secure retirement, this proposal could increase annuity take-up rates, thus helping to address adverse selection.

OVERCOMING CONCERNS THROUGH EDUCATION

Purchasing a lifetime income annuity is usually an irrevocable decision. While some annuities allow for lump-sum cash withdrawals after income payments begin, generally the funds used to purchase an annuity are no longer liquid, and therefore are no longer available in case of need. This “loss of control” of a substantial portion of one’s savings can often result in a “psychological threshold”¹⁸ that can make it difficult to commit to purchasing an annuity. To help overcome this threshold, workers and plan sponsors need complete information about the investment and distribution options available through the plan. This can be accomplished by offering participants objective advice programs that focus on the goal of ensuring a secure and comfortable retirement. Objective guidance can help participants save enough for retirement and can ensure participants experience a seamless transition from worker to retiree, especially when annuities are offered as part of the plan.

This objective advice should not be limited solely to investing, but should extend to how to structure income at retirement and then how to manage the income in retirement. For example, individuals need guidance as to how much of their existing retirement wealth should be devoted to an annuity because, while research suggests all retirees should have enough guaranteed income to cover life’s necessities,¹⁹ it is not always necessary to convert one’s entire retirement savings to annuity income. A worker nearing retirement that needs \$35,000 per year to cover life’s necessities (food, housing, utilities, medical, etc.) but will receive \$20,000 from Social Security would only need to purchase an annuity that pays \$15,000 per year. If the individual has retirement assets in excess of the amount needed, then there is the option to purchase a larger annuity or save the funds for other uses.

Retirement policy reforms are needed to ensure that workers are saving enough to cover, at a minimum, their retirement necessities. Policies that encourage greater utilization of financial education and advice services will enhance individuals’ retirement security by helping reduce uncertainty about what is needed to guarantee a comfortable retirement. Regulatory reforms should clarify the role of financial planning and advice in helping individuals determine the proper level of annuitization. Reforms should also provide adequate safeguards to guarantee individuals seeking financial advice have confidence they are working with a reputable firm when making important financial decisions.

PROVIDING FOR BENEFICIARIES

Another misconception many people have about annuities is that all payments cease upon death of the individual receiving the annuity payment. While this can be true of some annuities, there are generally a number of options available to ensure payments continue to a spouse or dependents after the death of the original annuitant. For example, many annuities allow the primary annuitant to name an annuity partner, usually a spouse, who would continue to receive lifetime payments if he or she outlives the original annuitant.

Another way to ensure payments continue after death is by choosing a period certain option (also referred to as a guaranteed period). Under this option, the annuitant chooses a set number of years during which payments are guaranteed regardless of how long either the first or the second annuitant lives. It sometimes helps to think of the period certain as a type of term insurance for an annuity.

¹⁸ Perun (2004).

¹⁹ Brown (2008).

Policy reforms that seek to require inclusion of annuities in retirement plans also should require, at a minimum, that any annuity include a joint-life option. This would allow surviving spouses to continue receive retirement benefits in the event the original annuitant predeceases them, as well as help them maintain a consistent standard of living while providing the original annuitant with peace of mind that his or her death will not put a spouse in a difficult financial situation. By providing individuals with annuity options that allow continuation of payments to surviving spouses and heirs, plan sponsors will simplify the financial planning process for millions of households.

INFLATION PROTECTION

Many individuals mistakenly believe annuities provide static payments that do not increase or decrease over time. That is, they assume that if an annuity begins paying \$1,000 per month at age 65, the payment will still be \$1,000 at age 95. Given that most individuals are aware of the potential impacts of inflation on their standard of living throughout retirement, this misconception can deter annuity take-up rates. But as with other misconceptions about annuities, in many cases concerns about inflation protection in annuities can be easily addressed.

Many fixed lifetime annuities provide yearly cost-of-living adjustments that help maintain an annuitant's standard of living. In addition, many variable lifetime annuities allow participants to invest in inflation-indexed bonds as a hedge against inflation. It is important to note, though, that variable annuities are not guaranteed and add risk to a retiree's income stream. Accordingly, variable annuities should be *part* of many retirees' income but should not be used as a source of income for covering life's necessities.

Retirement policy should encourage plan sponsors to offer annuities that provide for some form of inflation protection. When considered in conjunction with Social Security, inflation-indexed annuities provide a solid method of ensuring individuals maintain a secure and comfortable lifestyle throughout retirement.

SELF-ANNUITIZATION

Rather than purchasing an annuity, retirees often attempt to "self-annuitize" by utilizing rule-of-thumb plans to draw down retirement assets and finance retirement consumption. These plans can vary widely. Some simply choose to draw down a certain percentage of their accumulation on a regular basis (e.g., 4 percent of their beginning-of-year balance spread out in monthly payments). Others develop more elaborate plans, looking at their overall accumulations and consumption needs, assuming an average rate of return and life expectancy, and then deciding what they can reasonably withdrawal each year.

On the surface, these phased withdrawal plans appear to offer a "best of both worlds" scenario. If all goes according to plan, retirees can receive a steady stream of income while maintaining liquidity and control over retirement assets. However, retirees need to understand the large degree of risk this method carries with it. Any one of many unexpected life events can have a potentially disastrous impact on a retiree's financial future.

First, since these types of plans rely heavily on achieving assumed investment returns, retirees must actively manage their assets and bear the investment risk if actual returns fall short of expectations. This exposes the individual to substantial consumption risk because poor returns in any given year can greatly affect the monthly withdrawal amount. Several years of poor returns could result in a lower monthly payment and/or require the individual to dip into principal. One need only look to the recent financial crisis for an example of how a large systemic market shock can decimate a phased withdrawal plan, even with a well-diversified portfolio.

Second, self-annuitization requires a retiree to bear longevity risk. Studies show that annual payments from a phased withdrawal plan, set equal to what a lifetime annuity payment would provide, have a greater than 50 percent chance of exhausting available assets before average life expectancy is reached, thus putting a retiree at risk of running out of money before death.²⁰ While these types of plans may be an important component of an overall retirement income strategy

²⁰ See, for example, TIAA-CREF (2008) and Brown (2008).

for many retirees, they do not provide income guarantees and should not be expected to fund nondiscretionary income throughout retirement.

A number of studies have examined the efficacy of phased withdrawal plans relative to lifetime annuity and all have found evidence that phased withdrawal plans create unnecessarily large risk exposure for retirees.²¹ For example, Babbel and Merrill find that phased withdrawal plans contain a substantial probability of an income shortfall, placing many retirees' well-being at risk. Their findings on annuities, however, were more favorable:

“Life annuities...pool longevity risk across a population of annuitants, and provide guaranteed investment returns throughout life, thereby eliminating this risk. To achieve a similar riskless guarantee of income throughout one's uncertain lifetime without life annuities would cost between 25 percent and 40 percent more.”²²

When considering reforms, policy makers should carefully consider whether most retirees have the ability (or desire) to manage these risks effectively. Effective management requires that a retiree have the financial discipline, investment knowledge, and time, willingness, and/or ability to manage the plan. Reforms should encourage individuals to seek ways to effectively diversify and allow for professional management of these risks, as annuities do. These types of reforms have the potential to improve retirement outcomes for millions of Americans.

ANNUITY FRAMING

Framing refers to how the terms of a discussion are presented or marketed. A growing body of research examines how financial advisors' framing of annuity discussions affects household demand for annuities. For example, if an advisor focuses on the risks of alternative investments relative to annuities, it may affect annuity demand. Not surprisingly, these studies conclude that a financial advisor's framing of the annuity decision has a significant impact on a person's ultimate decision.

One recent study compared reactions when the annuity decision was framed with an emphasis on consumption versus investment. The study found that the “vast majority of individuals prefer an annuity..when presented in a consumption frame, whereas the majority of individuals prefer non-annuitized products when presented in an investment frame.”²³ Another study looked at the impact that a financial advisor's negative description of an annuity can have on a client's decision to purchase an annuity. The results of this study showed people were less likely to choose an annuity after a “pro-investment” presentation and more likely to choose it after a “pro-annuity” presentation.²⁴

These studies highlight the need for advisors to provide a balanced explanation when presenting retirement income options to their clients and for financial companies to ensure their advisors adhere to this standard. Perhaps most importantly, consumers need to be aware of potential biases and/or motivations (e.g., commissions) an advisor may have and ensure that they know the advantages and disadvantages of any product they are considering.²⁵ Policy makers should consider establishing appropriate standards that increase the likelihood that workers and retirees are making effective retirement income decisions.

21 See for example Dus, et al. (2005). Milevsky and Robinson (2000). Babbel and Merrill (2007).

22 Babbel and Merrill (2007).

23 Brown, Jeffrey R., et al. (2008).

24 Agnew, Julie R., et al. (2008).

25 Agnew, Julie R., et al. (2008).

CONCLUSION

Sources of retirement income have been changing over the past 30 years. The future of Social Security benefits remains uncertain. Fewer workers are entering retirement with traditional employer-funded DB plan benefits and more people are managing numerous retirement plan risks – both during their working life and throughout retirement. At a time when average life expectancy continues to grow, workers not only face the growing burden of saving enough and investing wisely in their retirement plans, but they must also ensure that the choices they make with their retirement assets provide them with a secure and comfortable income throughout retirement.

While individuals are ultimately responsible for the decisions they make about their own financial security, other market participants can help ensure the majority of Americans enjoy a secure and comfortable retirement. The financial services industry, employers, legislators, regulators, and policy makers all play key roles in avoiding a looming retirement crisis where millions of retirees face the risk of running out of resources simply because they live too long. Failure to enact needed policy reforms could result in a number of dire consequences, not the least of which is an increasingly destitute elderly population that would place a strain on already stressed federal and state budgets.

Expanding the use of guaranteed lifetime annuities provides a logical and proven solution to diversifying and effectively managing many of the risks that retirees currently bear. Through a combination of increased access to annuity products in retirement plans, improved regulation and legislation, accessible objective guidance, new and improved products and pricing, and a concerted effort to clear up the myths surrounding annuities, these products will play an important role in ensuring future generations have access to adequate and secure income in retirement, regardless of how long they live.

BIBLIOGRAPHY

- Agnew, Julie R., Lisa R. Anderson, Jeffrey R. Gerlach, and Lisa R. Szykman (2008). "The Annuity Puzzle and Negative Framing." CRR Issue Brief No. 8-10. Center for Retirement Research at Boston College.
- Babbel, David F. (2008). "Lifetime Income for Women: A Financial Economist's Perspective." Wharton Financial Institutions Center Policy Brief: Personal Finance.
- Babbel, David F. and Craig B. Merrill (2007). "Rational Decumulation." Wharton Financial Institutions Center Policy Brief: Personal Finance.
- Blake, D., W. Burrows, and J. Michael Orszag (2002). "Survivor Bonds and Compulsory Annuitization: Reducing the Costs of Pension Provision." In Olivia Mitchell, ed., *Innovations in Retirement Financing*. Philadelphia, PA: Pension Research Council, pp. 222-233.
- Brown, Jeffrey R. (2001). "Private Pensions, Mortality Risk, and the Decision to Annuitize." *Journal of Public Economics*, 82(1), pp. 29-62.
- Brown, Jeffrey R. (2007). "Rational and Behavioral Perspectives on the Role of Annuities in Retirement Planning." National Bureau of Economic Research Working Paper 13537.
- Brown, Jeffrey R. (2008). "A Paycheck for Life: The Role of Annuities in Your Retirement Portfolio." TIAA-CREF *Trends and Issues*, TIAA-CREF Institute.
- Brown, Jeffrey R., Olivia S. Mitchell and James M. Poterba (2000). "Joint Life Annuities and the Demand for Annuities by Married Couples." *The Journal of Risk and Insurance*, 67(4), pp. 527 -553.
- Brown, Jeffrey R., Marcus Casey, and Olivia S. Mitchell (2007). "Who Values the Social Security Annuity? Evidence from the Health and Retirement Study." Pension Research Council Working Paper
- Brown, Jeffrey R., Kling, Jeffrey R., Mullainathan, Sendhil, and Marian V. Worbel (2008). "Why Don't the People Insure Late Life Consumption? A Framing Explanation of the Under-Annuitization Puzzle." TIAA-CREF Institute *Research Dialogue* No. 88. TIAA-CREF Institute.
- Dus, Ivica, Raimond Maurer, and Olivia S. Mitchell (2005). "Betting on Death and Capital Markets in Retirement: A Shortfall Risk Analysis of Life Annuities versus Phased Withdrawal Plans." *Financial Services Review*, Vol. 14. pp. 169 – 196.
- Friedberg, Leora, and Anthony Webb. (2006). "Life is Cheap: Using Mortality Bonds to Hedge Aggregate Mortality Risk." CRR WP 2005-12, Boston College Center for Retirement Research.
- Gale, William G., J. Mark Iwry, David C. John, and Lina Walker (2008). "Increasing Annuitization in 401(k) Plans with Automatic Trial Income." The Retirement Security Project, No. 2008-2.
- Gendell, Murray (2001). "Retirement age declines again in the 1990s." *Monthly Labor Review*.
- Milevsky, Moshe A. and Chris Robinson (2000). "Self-annuitization and Ruin in Retirement." *North American Actuarial Journal*, 4(4), pp. 113-129.
- Mitchell, Olivia S., James M. Poterba, Mark J. Warshwsky, and Jeffrey R. Brown (1999). "New Evidence on the Money's Worth of Individual Annuities." *American Economic Review*, 89(5), pp. 1299-1318
- Perun, Pamela J. (2004). "Putting Annuities Back Into Savings Plans." Working Paper presented at the Society of Actuaries Symposium on Managing Retirement Assets, April 1, 2004.
- Social Security Administration (2009). The 2009 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds.
- Social Security Administration (2008). *The Future of Social Security*. SSA Publication Number 05-10055. 2008.
- Society of Actuaries (2006). "Key Findings and Issues, Longevity: The Underlying Driver of Retirement Risk, 2005 Risks and Process Retirement Survey Report." July 2006.

ABOUT THE AUTHORS

David P. Richardson is Principal Research Fellow at the TIAA-CREF Institute. Prior to joining the Institute, he held the New York Life Chair in Risk Management and Insurance at Georgia State University. Previously, Dr. Richardson served as Senior Economist for Public Finance at the White House Council of Economic Advisers, as a Financial Economist in the Office of Tax Policy at the U.S. Treasury, and was an Assistant Professor in the Department of Economics at Davidson College. He has been a research fellow for the China Center for Insurance and Social Security Research at Peking University, and a research fellow for the Center for Risk Management Research and research associate for the Andrew Young School of Policy Studies at Georgia State University. He earned a M.A. and a Ph.D. in economics from Boston College, and a B.B.A. from the University of Georgia.

Christopher S. Spence is a Senior Policy Analyst in the Government Relations Public Policy area of TIAA-CREF. Mr. Spence has been with TIAA-CREF since 1999 and, prior to his current position, worked as an Individual Consultant in Client Services where he provided holistic financial planning services to individual clients, with a focus on helping them plan for retirement. He holds a number of financial designations, including the Chartered Financial Consultant (ChFC), the Chartered Life Underwriter (CLU), and the Chartered Advisor for Senior Living (CASL). He earned a B.A. in Journalism from Rowan University.