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# 2021 POLICY INNOVATION FORUM REPORT
## Securing a Reliable Income in Retirement

# Is It Possible to Build a 21st-Century Personal Pension?





GEORGETOWN UNIVERSITY
McCourt School of Public Policy

CENTER FOR RETIREMENT INITIATIVES

Angela M. Antonelli
Christopher Mungiello

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Ideas for a changing world

## About the Center for Retirement Initiatives (CRI)

The Center for Retirement Initiatives (CRI) at Georgetown University is a research center of the McCourt School of Public Policy, one of the top-ranked public policy programs in the nation. Through its academic reputation and ability to engage with policymakers, business leaders, and other stakeholders, the McCourt School attracts world-class scholars and students who have become leaders in the public, private, and nonprofit sectors. The CRI is dedicated to:

- Strengthening retirement security by expanding access and coverage for the private sector workforce;

- Providing thought leadership and developing innovative new approaches to retirement savings, investment, and lifetime income; and

- Serving as a trusted policy advisor to federal, state, and local policymakers and stakeholders.

600 New Jersey Avenue NW, 3rd Floor
Washington, DC 20001

202-687-4901 · https://cri.georgetown.edu/

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## About the Berggruen Institute

The Berggruen Institute's mission is to develop foundational ideas and shape political, economic, and social institutions for the 21st century. By providing critical analysis using an outwardly expansive and purposeful network, the Institute brings together some of the best minds and most-authoritative voices from across cultural and political boundaries to explore fundamental questions of our time. Its objective is to have an enduring impact on the progress and direction of societies around the world.

Bradbury Building
304 S. Broadway, Suite 500
Los Angeles, CA 90013

310-550-7083 • https://www.berggruen.org/

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## About the CRI'S Policy Innovation Forum

On November 2–3, 2021, the CRI convened an exclusive, invitation-only annual Policy Innovation Forum as a two-day virtual event. The Forum brought together a select group of U.S. and international thought leaders to discuss the key challenges of designing retirement solutions for generating and securing reliable lifetime income.

In response to growing interest from both plan participants and plan sponsors in creating and protecting lifetime income, these experts shared innovative approaches that are being either considered or implemented in the U.S. and other countries. The Forum examined the importance of communication and education for engaging savers; the challenges and solutions in mitigating major risks to retirement income — e.g., longevity, timing, investment, inflation, etc.; and the experience of other nations with lessons for the United States.

## Acknowledgments

The CRI is grateful to the Berggruen Institute for the generous support of the 2021 Policy Innovation Forum, its Call for Papers, and this report. The selected papers and associated honoraria allow the CRI to spotlight some of the best current work and researchers focused on solving the lifetime income puzzle for today's defined contribution (DC) retirement systems. These papers can be found in summary form in the Appendix of this report and the full reports are accessible through the CRI's website at https://cri.georgetown.edu/events/forum/2021-forum/#call-for-papers.

The CRI also thanks the invited participants for their contributions to a lively and thought-provoking discussion about the challenges we face today and the need to focus on designing solutions that will achieve improved, long-term retirement income outcomes. We want to give special recognition to keynote presentations by Dr. Shlomo Benartzi, Dr. Robert Merton, and Bradley Schurman, whose innovative ideas we highlight as part of this report.

The authors of this report are the CRI's Angela M. Antonelli, Research Professor and Executive Director, and Christopher Mungiello, Research Assistant.

The CRI also thanks Keith Ambachtsheer, David Blanchett, Dr. Yakov Feygin, Charles Millard, Alvaro Altamirano Montoya, David Morse, Martin Noven, and Han Yik for their review and comments in the preparation of this report.

This report summarizes the key takeaways and ideas discussed during the Forum. Any errors in the presentation of the findings, interpretations, and conclusions in this report are those of the Georgetown CRI and not of any participating individual or organization. The report is intended to be a summary of the Forum discussion and should not be interpreted or represented as a formal position or recommendation of the CRI.

# Table of Contents

# I. Executive Summary

On November 2–3, 2021, the Georgetown University Center for Retirement Initiatives (CRI) convened an invitation-only two-day virtual policy forum with senior industry leaders, policymakers, and stakeholders from around the world to examine some of the key challenges designing a retirement system that can deliver secure, reliable income in retirement.

People are living longer and having fewer children. This combination of higher life expectancies and smaller replacement ratios has serious ramifications for the future of retirement. In most countries, the public and private sectors are still not prepared to build retirement-income–generating systems that are adequate, sustainable, and well-governed.

The good news is that important progress is being made to understand the significant demographic shifts, economic trends, and preferences of individuals as they age. Workers are increasingly demanding that their defined contribution (DC) retirement plans serve not only as a vehicle for accumulating savings, but also for generating retirement income.

## Decoding Demographics

The future of retirement security may well depend on whether we understand our demographic future. For the first time in our history, many countries are shifting toward what are being referred to as “Super Age” populations. The United Nations defines the Super Age for a nation as the period when one out of five people, or at least 20 percent of the population, will be over the age of 65.[1] Countries such as Germany, Italy, and Japan have already reached their Super Age. By the year 2030, more than 42 countries will reach this designation.

More than 100 years ago, the stages of life looked more like what most people still typically think they are: childhood, adulthood, and old age. However, the reality is much different today, with several stages of adulthood and work. Increasingly, SuperAgers[2] remain active and may participate in full-time, part-time, or volunteer work. These SuperAgers are earning through either active or passive income channels and remaining active consumers. An aging global population presents immense economic opportunities, including the need for sustainable, protected lifetime income.

## Too Many are Disconnected with Too Little Saved for Retirement

While Social Security provides a basic retirement income floor for U.S. retirees, it was not designed to meet all retirement income needs. Over the last 40 years, both in the United States and globally, the traditional occupational-based defined benefit (DB) pension system has gradually been replaced by a defined contribution (DC) system of individual retirement accounts. As DC plans have replaced DB plans, millions of Americans have been left to figure out how to plan their own retirements. The key difference between a DB plan and a DC plan is that most DC plans today are not designed to generate or protect lifetime income. The retiree is left to make all decisions about how much to save and how to invest, and then manage their savings to make sure those funds will last through retirement. This shift to a “do it yourself” approach has broad implications for retirement security.

Saving for retirement is made even more challenging in the United States for the millions of private sector workers who do not have access to employer-sponsored retirement savings plans. The Georgetown University Center for Retirement Initiatives estimates that 46 percent of private sector workers lack access to an employer-sponsored plan, representing about 57.3 million workers as of 2020.[3]

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[1] U.N. Department of Economic and Social Affairs, Population Division, “World Population Ageing 2019: Highlights — United Nations” (New York, NY: United Nations, 2019).
[2] Bradley Schurman, *The Super Age: Decoding Our Demographic Destiny* (New York, NY: Harper Publishing, January 2022).
[3] Angela M. Antonelli, “What Are the Potential Benefits of Universal Access to Retirement Savings?” (Washington, DC: Georgetown University Center for Retirement Initiatives, 2020).

Even for those who may have access to employer-sponsored retirement savings plans, there also are current economic trends that make it challenging for many to save for retirement. Among the more critical factors contributing to difficulties in accumulating savings are market volatility, sudden and unexpected changes in income and expenses, and large amounts of student loan debt.[4]

Policymakers in the United States have developed and started to implement reforms intended to close the gap in private sector retirement savings access, encourage savings, and strengthen the retirement readiness of workers. Such efforts are not unique to the U.S. — other countries have already adopted a mix of public and private models to move toward universal access and employ automatic features that have significantly boosted retirement asset accumulation.[5]

While universal access is important, we know from the experience of other countries that it does not mean they are also able to provide their retirees with ways to generate and secure reliable income to last a lifetime. In the end, the success of our retirement system should be measured by whether it has improved retirement income outcomes. This is the challenge that remains.

## Solving the Annuitization Puzzle

One of the top concerns of baby boomers is not about being sick in old age; it is about not being able to pay for healthcare and other expenses, especially at older ages. Boomers fear running out of money. This fear results in retirees often making one of two mistakes in retirement: They either spend too much, or they spend too little and needlessly deprive themselves of things or experiences that can bring them joy and an improved quality of life.

A large body of work focuses on why annuities have not gained much traction with retirement savers. Many believe there is a need to communicate the function of an annuity more effectively. Framing it as a retirement income paycheck and what that means for spending in retirement may be easier to understand. Equally important is understanding what people really care about in retirement. This includes helping individuals better evaluate tradeoffs that shape how they will want to spend in retirement. Understanding this has important implications for framing both the accumulation/saving and decumulation/income-spending phases of retirement.

Traditional pensions or guaranteed income can have a significant influence on life satisfaction, contributing to healthier lifestyles and helping to optimize spending in retirement. On average, people with traditional DB pensions are more satisfied with their lives than those who do not have such pensions. This suggests that it may be time for thinking about the future of DC plans, and whether it is possible to design a new 21st-century "personal pension."[6]

## Innovations in DC Plan Design and Solving for Risks

The retirement solutions of the future will have to be easy to understand and must be flexible enough to meet individual circumstances. Plan participants want more control, flexibility, and liquidity to address life events, such as changes in health or economic status. If DC plans are going to provide the secure, reliable income that participants say they increasingly want in their retirement plans, that suggests that the plans of the future will incorporate some solution or combination of solutions, including one or more default options. The industry is moving toward the availability of multiple products, solutions, tools, and services to support a plan design better suited to meeting individual needs. Managed payout funds, longevity insurance, and emergency funds, for example, may play a larger role because they will help people achieve a more secure, reliable income in retirement.

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[4] Board of Governors of the Federal Reserve System, Economic Well-Being of U.S. Households in 2021 (Washington, DC: Federal Reserve, May 2022).
[5] Antonelli, pp. 12–18.
[6] The use of the term "personal pension" is intended throughout this paper to refer to the concept of producing a stream of retirement income and it can encompass different designs. This general terminology is not to be confused with the personal pensions offered in the United Kingdom as a type of DC retirement plan arrangement. For more information on the U.K. example, see https://www.moneyhelper.org.uk/en/pensions-and-retirement/pensions-basics/personal-pensions.

There is general agreement that there is not a dichotomous choice between the use of defaults and the ability to deliver some customization or personalization of solutions in plan design. For all the merits of customization, there are benefits to uniformity that come with the use of default options. It is possible to design one or more default options that can provide a basic income with some portion of savings, while giving individuals other options for the balance of their accumulated savings that address concerns related to flexibility and liquidity. You can construct the choice architecture in a way that offers options, but also limits the permutations of customizations. Technology and data can help facilitate this.

Although there is growing demand for lifetime income, interest rate and other risks can always make it more challenging to achieve. Inflation risk, which had not been a major concern for several decades, is now a more serious concern. Products that offer the power of pooled funding, for example, whether in an annuity or a tontine, can be more attractive if they achieve income goals while also addressing these and other risks, including that of longevity.

An important consideration in all of this is the application and limits of financial education. Unfortunately, people tend to ignore a lot of the information that is delivered to them. Much more can be done to understand how and when to deliver information at times when it is most likely to be read and digested, and lead to action. As just one example, some countries have implemented the concept of a retirement dashboard — a tool that can take many forms, with the objective of helping to put financial information in one place to facilitate decision-making.

## Alternative Designs for Securing Reliable Income in Retirement

Retirement income solutions are designed and evaluated based on how well they address different types of risks, such as longevity, inflation, market, and decision, and the need for liquidity. While much of the discussion has focused on guaranteed (different types of annuities) and non-guaranteed (managed payout, etc.) options, there are other new, innovative approaches for generating and protecting lifetime income with the potential to transform how we think about retirement income.

*SeLFIES (Standard-of-Living Indexed, Forward-starting Income-only Securities)*

SeLFIES as an innovative solution would work in the same way as a government bond. In the U.S. context, SeLFIES would have the full faith and credit of the U.S. Department of Treasury. One of the benefits of implementing SeLFIES would be that consumers can understand this product easily — they do not have to do extensive research to calculate how much they might have in retirement.

How do SeLFIES work? Imagine a hypothetical 28-year-old woman who plans to retire at age 65. This individual has a goal of $50,000 in retirement income, and she currently lives on a $50,000 annual income. Given her desire to retire at 65, she would only look at SeLFIES that have payout dates starting in 2059. Each unit has a payout of $10 a year and the payout period is for 20 years. To determine what she wants her standard of living to be in retirement, all she has to do is divide $50,000 by $10 to realize that she needs to acquire 5,000 units of SeLFIES.

SeLFIES are designed to be of value to both individual and institutional investors. Individuals who either have no retirement plans at all — DB or DC — or those with insufficient retirement savings could accumulate additional assets that can be easily converted to retirement income. In addition, these might be attractive to institutional investors such as pension funds or insurance companies that have pension and annuity benefit liabilities and want to hedge them at low costs or want a more diversified portfolio.

*CDCs and Tontines*

In an era when even a significant amount of financial literacy does not guarantee optimizing DC plan benefits, the pooling aspect of collective defined contribution (CDC) plans and tontines can offer individuals more security. Although the pooling aspect of both tontines and CDC plans can provide retirees a way to potentially increase their income, these solutions are different from traditional annuities in that they do not necessarily offer a guaranteed payout. Instead, they generally provide people with a longevity-protected income stream. By harnessing the power of pooling, both CDCs and tontines can deliver more in retirement income — albeit with more potential risk to the retiree — at lower costs than commercial annuities. Overall, tontines and CDC plans offer retirees an exciting way of preparing for retirement through pooling, which allows for higher income levels and longevity protection in a sustainable way.

Today, we are seeing growing interest in and adoption of CDC and tontine arrangements in Canada and Europe, and they offer lessons for the United States. The current DC-centric U.S. retirement system is dominated by IRA and 401(k) products. The challenges of moving the industry away from what is so familiar and in which so many are heavily invested would be no small undertaking. Nevertheless, the experience of other countries might spur innovation and lead to embedding some of the pooling structures as part of customized solutions in the U.S.

## International Trends and Lessons for the U.S.

The Mercer CFA Institute Global Pension Index[7] releases a ranking every year to measure some of the largest pension systems from around the world. It benchmarks using three sub-indices — adequacy, sustainability, and integrity — to evaluate retirement income systems, using a letter score with a range from “A” to “D.” An A score signifies that a country has a very good pension system, while a D means that there are serious pension flaws that have to be addressed. Out of the 43 countries, however, only three — Denmark, Iceland, and the Netherlands — received As in the most-recent Index.

For more nations to improve their rankings, there must be a focus on improving pillar one (national pension) and pillar two (occupational-based pensions/savings). The main issue for pillar one is the sustainability of these plans, especially in the face of changing demographics. The challenge for the other retirement savings pillars varies considerably around the world. More-traditional DB arrangements face fiscal sustainability issues that are undermining confidence in those arrangements with participants now seeking greater control and flexibility. We see this in some countries in Latin America, for example. In countries with DC-centric arrangements, the challenge has been to develop retirement income solutions that offer the desired flexibility and control while providing a reliable stream of retirement income. In Asia, there is greater acceptance of mandatory annuitization to achieve this goal.

Another challenge in all countries but is perhaps more pronounced in less-developed nations, is reaching the sizeable informal work sector, characterized by the lack of established employer-employee arrangements and irregular and relatively low earnings. For example, more than 50 percent of Africa’s GDP comes from the informal labor force.

Regardless, the overall conclusion is that there are no shortages of retirement income products, solutions, and design ideas. Ultimately, the ability for more nations to solve for lifetime income will be determined by whether policymakers and industry turn from a focus on products to better understanding individual behavior when it comes to retirement income and spending. In doing so, they can design and adopt a retirement plan – a personal pension plan for the 21st century, characterized by flexibility that can meet personal needs and preferences. In turn, citizens will need to have trust that both their public and private sector institutions can effectively design, but even more importantly, effectively govern any retirement system.

[7] Mercer|CFA Institute Global Pension Index 2021.

## II. The Impending Demographic Problem[8]

***Key Takeaways:***

- Aging is occurring globally, with many countries shifting to "Super Age" populations.
- Retirement as we know it may be dying as the stages of life expand and more Super Agers remain in the workforce.
- Opportunities exist to innovate and support workers with new services, products, and solutions that can meet their needs at every stage of life, including the need for lifetime income.

**By the year 2030, 42 countries, including the United States, will have "Super Age" populations — at least 20 percent of their population will be over the age of 65.**

The future of retirement security may well depend on whether we understand our demographic future. For the first time in our history, many countries are shifting toward what some are now referring to as "Super Age" populations. The United Nations defines the Super Age as the period when one out of five people, or at least 20 percent of the population, will be over the age of 65.[9] Countries such as Germany, Italy, and Japan have already reached their Super Age. By the year 2030, 42 countries, including the United States, will have reached this designation.[10] Although the United States has not yet reached its Super Age, several states — such as Florida, Maine, West Virginia, and Vermont — are already there.[11]

Are our global retirement systems prepared to handle this demographic shift? According to Bradley Schurman, author of *The Super Age,*[12] the statistics point to three stark realities: Aging is happening everywhere (in the U.S. and globally), the life course has altered fundamentally, and retirement — as traditionally known and expected — is dying.

### A. Aging Is Happening Everywhere

For most of human history, life expectancy was about 35 years, and very few people enjoyed a long life. In the 17th and 18th centuries, one-third of children died before the age of 5 and one-half of children did not live to adulthood. Since the time of the first Industrial Revolution, this trend slowly began to shift as advances in science and technology allowed more of the population to age to adulthood and people began living longer, healthier lives. At the same time, the number of births per household decreased. More recently, we have seen an acceleration of these shifts, leading to the two merging mega-trends of today: decreases in birth rates and increases in longevity, which together have the cumulative effect of increasing the average age of a population.

In the United States, at least one-half of the population is now over the age of 38.[13] According to analysis by the Georgetown University Center for Retirement Initiatives, we will have a 32 percent increase in the number of Americans over the age of 65 between 2020 and 2040.[14] Because of the aging of the population and the continued decline in birth rates around the world, demographers now expect the population growth of many countries to begin to slow significantly, with the potential for real decreases in populations.

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[8] This section is derived from a Forum keynote presentation by Bradley Schurman and based on his recently released book, *The Super Age: Decoding our Demographic Destiny* (New York, NY: Harper Publishing, January 2022), as well as a blog post for the CRI, "Our Demographic Destiny and Why Retirement As We Know It Is Dead" (Washington, DC: Georgetown University Center for Retirement Initiatives, December 14, 2021).
[9] U.N. Department of Economic and Social Affairs, Population Division, "World Population Ageing 2019: Highlights — United Nations" (New York, NY: United Nations, 2019). https://population.un.org/wpp/DataQuery/.
[10] Ibid.
[11] Bradley Schurman, "Our Demographic Destiny and Why Retirement As We Know It Is Dead."
[12] Schurman, *The Super Age: Decoding our Demographic Destiny.*
[13] Schurman, "Our Demographic Destiny and Why Retirement As We Know It Is Dead."
[14] Antonelli, "What Are the Potential Benefits of Universal Access to Retirement Savings?"

Although both life expectancy and income have increased over time, there are still discrepancies within populations. Higher-educated and higher-income populations are more likely to live longer by as much as 10 to 15 years when comparing the top 1 percent of income with the lowest 1 percent of income.[15] These groups tend to live in urban areas rather than rural areas. In the U.S. context, life expectancy and income are also tied to race and gender. White cisgender gay men earn the most money,[16] while Asian cisgender women live the longest.[17] On the other hand, trans women of color not only earn the least but also have the lowest life expectancy. Differences in life expectancy between those who live the longest and those who live the shortest is known as the "longevity gap." One of the starkest examples of this is the fact that within the city of Washington, D.C., there is a 27-year difference in life expectancy between the richest and poorest residents, and this is true in other cities like New York and Chicago.[18]

## B. Changes in Life Stages

Various social policy and scientific interventions that have emerged in post-war America have altered the life course and increased life expectancy. The result has been evolution in the stages of aging and life.

At the turn of the 20th century, most people experienced childhood, adulthood, and old age, often reflected in a lifespan of about 44 years. By the 1960s, children were living into adulthood and the average life expectancy was approaching 70 years of age. By the 1990s, the average life expectancy continued to increase to age 75 or longer, meaning what was considered "old age" continued to evolve. In 2021 and beyond, we are now seeing many people living past the age of 80, which can be 10 to 20 years past retirement.

What we are seeing with Super Agers is a new life stage: People are living past retirement yet exhibiting characteristics of middle-aged workers — they are engaged in full-time, part-time, or volunteer work; they are still earning money through either active or passive income; and they are spending. They are remaining active consumers and they are not necessarily on fixed incomes.

## C. Why Retirement as We Know It Is Dying

Over the past 30 to 40 years, with the shift from defined benefit pensions to the defined contribution system, responsibility for providing financial security in retirement has shifted away from institutions to individuals, who now have the primary responsibility for funding and managing their retirement. This challenge is amplified as many social programs, such as Social Security, Medicare, and Medicaid, continue to face funding challenges, placing the burden on the individual to address the gaps in government services. Individuals living well past the age of retirement have started to tackle these retirement challenges by returning to the workforce, either out of necessity or from a desire for a better lifestyle.

**Between 2020 and 2030, the number of those over age 75 in the civilian workforce is expected to increase from 8.9 percent to 11.7 percent, growing from 2 to 4 million workers.**

Before the pandemic, roughly 250,000 people over the age of 80 were in the workforce, and this number is predicted to grow. Between 2020 and 2030, the number of those over age 75 in the U.S. civilian workforce is expected to increase from 8.9 percent to 11.7 percent, growing from approximately 2 million to 4 million workers.[19]

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[15] Raj Chetty, Michael Stepner, Sarah Abraham, Shelby Lin, Benjamin Scuderi, Nicholas Turner, Augustin Bergeron, and David Cutler, "The Association Between Income and Life Expectancy in the United States, 2001–2014" (Washington, DC: National Institutes of Health, 2014). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4866586/.
[16] Preeti Varathan, "Gay men now earn more than straight men in the US" (New York, NY: Quartz at Work, December 6, 2017).
[17] Quick Facts, "The Measure of America 2010–2011" (New York, NY: Social Science Research Council).
[18] Schurman, "Our Demographic Destiny and Why Retirement As We Know It Is Dead."
[19] Bureau of Labor Statistics, "Civilian labor force participation rate by age, sex, race, and ethnicity".

**It is inevitable that more older Americans will be working longer, and our economy *has* to have some people working longer … these trends create new opportunities for innovation in products, and services, and solutions that can be used throughout life, not only for retirement.**

We do not usually think of older people, especially the oldest people in society, as working for so long. However, there are intrinsic health and economic benefits to working longer. Not only are we seeing individuals as active contributors, but it also is good for mental and physical health. Social isolation is a public health crisis, but is something that we can remedy by keeping people working longer if they can and want to work. At the same time, we also are hearing that there is a contraction in the labor force. But to be clear, there is no labor shortage. There are enough people to do the jobs.

The biggest takeaway from that experience is that as we approach the Super Age, it is inevitable that more older Americans will be working longer, and our economy *has* to have some people working longer. At the same time, the United States and many leading economies are simply going to be home to more people who will live longer lives and will need to accumulate or have access to secure financial assets that will last into very old age. While challenging, these trends create new opportunities for innovation in products, services, and solutions that can be used throughout life, not only for retirement.

# III. Too Many Lack Access with Too Little Saved for Retirement

***Key Takeaways:***

- Social Security was never intended to be the sole source of income in retirement and should be supplemented by other savings.
- Gaps in access to and participation in employer-sponsored plans leave millions of Americans vulnerable to significant shortfalls in savings.
- Several financial trends have made the act of contributing to a retirement plan more difficult, including volatile income, unpredictable expenses, and rising debt.
- Women, African Americans, and Latinos are just a few groups that are more likely to experience sustained challenges in accumulating assets for their retirement.
- There are opportunities for the government and the private sector to help bridge the gaps in coverage and participation, reduce systemic inequality, and improve retirement income outcomes.

While Social Security provides a basic retirement income floor for retirees, it was not designed to meet all retirement income needs. Social Security should be supplemented by employer-based and personal savings. As of December 31, 2021, the average monthly Social Security retiree benefit was $1,658 per month, which is an annual equivalent of $19,896 or 1.5 times the federal poverty level for an individual.[20] A significant proportion of the retired population in the U.S. has come to rely on Social Security for a material proportion of their retirement income, with approximately one in five elderly households relying on it for at least 90 percent of their income.[21]

**A significant proportion of the retired population in the U.S. has come to rely on Social Security for a material proportion of their retirement income, with approximately one in five elderly households relying on it for at least 90 percent of their income.**

Social Security is not enough to maintain a pre-retirement standard of living at retirement for the vast majority of Americans. Social Security only replaces a percentage of a worker's pre-retirement income based on lifetime earnings. The amount of average wages that Social Security retirement benefits replace varies depending on those earnings and when someone chooses to start benefits. Social Security might replace more than half of a lower-income worker's pre-retirement income, but for higher-income workers, it could replace only about one-third or less of pre-retirement income. This highlights the problem with Social Security as the only source of guaranteed income for many people today.

Over the last 40 years, both in the United States and globally, the traditional occupational-based defined benefit (DB) pension system has gradually been replaced by a defined contribution (DC) system of individual retirement accounts. As DC plans have replaced DB plans, millions of Americans have been left to figure out how to plan their own retirements. The key difference between a DB and a DC plan is that most DC plans today are not designed to generate or protect lifetime income. The retiree is left to make all decisions about how much to save and how to invest, and then manage those savings to make sure they will last through retirement. This shift to a "do it yourself" approach has broad implications for retirement security.

To fully understand the challenges of ensuring that a rapidly aging global population will have sufficient income to support basic needs in old age, the two key phases of retirement life cycle — accumulation and decumulation — must be examined more closely.

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[20] Office of the Chief Actuary, Fact Sheet on the Old-Age, Survivors, and Disability Insurance Program (Washington, DC: Social Security Administration, January 31, 2022).
[21] Antonelli, "What Are the Potential Benefits of Universal Access to Retirement Savings?"

**A better understanding of some of the current obstacles to accessing and accumulating retirement savings can help policymakers and the private sector design effective policies and solutions to address the shortcomings and inequities in today's retirement system that are critical to improving overall retirement income.**

This section focuses solely on the retirement saving accumulation phase — the phase when individuals should be contributing and investing savings to grow over time while they are working to generate the income needed in retirement or when they stop working. However, individuals also can begin to plan for lifetime income during this phase as noted later in this report.

A better understanding of some of the current obstacles to accessing and accumulating retirement savings can help policymakers and the private sector design effective policies and solutions to address the shortcomings and inequities in today's retirement system that are critical to improving overall retirement income outcomes.

## A. Impacts of Economic Trends on Americans' Retirement Savings

In the United States, some current economic trends affect how much workers can save for retirement. Among the more critical factors contributing to difficulties in accumulation are market volatility affecting investment returns, sudden and unexpected changes in income or expenses, and large amounts of student loan debt.[22] Workers across the income spectrum are seeing increased volatility in their earnings.[23] The growth of the gig economy has placed workers in jobs that have more flexible (and irregular) schedules, but these workers often are not covered by employer-sponsored retirement plans.

**According to the Federal Reserve, 32 percent of Americans report needing to borrow or sell something to cover a $400 emergency expense, with 11 percent being unable to cover such an expense.**

While variability in income has increased, so too has volatility in expenses. Unexpected expenses, such as medical bills or auto repairs, are major drivers of expense volatility.[24] According to the Federal Reserve, 32 percent of Americans report needing to borrow or sell something to cover a $400 emergency expense, with 11 percent being unable to cover such an expense.[25] This volatility can be extremely disruptive to workers' financial lives, preventing them from focusing on long-term financial goals such as retirement planning.

Although many people may want to save for retirement, they are apprehensive about locking that money up because they know they may need access to those funds in case of an emergency. Plan sponsors and employers are looking at ways to offer solutions to help address this. Retirement savings plans can incorporate emergency or rainy-day accounts as companion accounts, allowing workers to contribute to both simultaneously.[26] Congress is considering a proposal that would establish an emergency savings account to which employees can contribute not more than 3 percent of their salary, with the accounts are capped at $2,500 (or lower, as set by the employer). Contributions are made post-tax and are treated as elective deferrals for purposes of retirement matching contributions. Once the cap is reached, contributions return to retirement plan savings.[27]

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22 Board of Governors of the Federal Reserve System, Ibid.

23 Keise Hansen, "A Dangerous Intersection? The Compounding Threats of Income Volatility and Retirement Insecurity" (Washington, DC: The Aspen Institute, EPIC, December 2018).

24 Diana Farrell and Fiona Greig, "Coping with Costs: Big Data on Expense Volatility and Medical Payments" (JPMorgan Chase Institute/JPMorgan Chase & Co., February 2017).

25 Board of Governors of the Federal Reserve System, Ibid.

26 Antonelli, "Emergency Savings Accounts Have the Power to Avoid Life-Changing Financial Disruption" (Jersey City, NJ: *Forbes* Magazine, May 3, 2019).

27 Senate Committee on Health, Education, Labor, and Pensions, "Senators Murray, Burr Release Draft of Legislation to Strengthen Families' Finances, Bolster Emergency Savings, Improve Retirement Security" (Washington, DC: May 26, 2022).

Overall rising levels of debt have made planning for retirement difficult as well. According to the Aspen Institute, 78 percent of households now hold debt in some form, and non-mortgage consumer debt is on the rise.[28] More specifically, the rise of student loan debt, which is now the second-largest component of household debt,[29] has made it increasingly difficult for Americans to find a path toward retirement security.

**Millennials entering the workforce with $30,000 in student loan debt were at risk of ending up with $325,000 less in retirement.**

Student loan debt is a significant financial challenge negatively affecting both younger and older generations. The LIMRA Secure Retirement Institute found that, when compared with their peers without debt, millennials entering the workforce with $30,000 in student loan debt were at risk of ending up with $325,000 less in retirement.[30] According to AARP, those over the age of 50 by the end of 2020 held 22 percent of the $1.6 trillion in total student debt, or $336.1 million — a fivefold increase since 2004.[31] Many people are now carrying this debt burden throughout their lifetimes and into retirement, which means that student loan debt threatens to affect retirement security in the decumulation as well as the accumulation phase.

Policymakers are exploring ways to address the negative impact of student loan debt on retirement savings and how that can delay or prevent workers from saving. Proposals range from debt forgiveness to allowing employers to contribute to a workers' retirement savings plan even though the workers might be paying off student debt and not contributing to the plan. As part of COVID-19 relief legislation, Congress authorized employers to make tax-free contributions of up to $5,250 a year to an employee's education debt. The payments are not included in employees' taxable income. This benefit is authorized through December 31, 2025, although it was already extended once and could eventually be made permanent.[32]

## B. Saving Challenges for Various Populations

Saving for retirement is made even more challenging for the millions of private sector workers in the United States who do not even have access to an employer-sponsored retirement savings plan. Using data from the Current Population Survey of the U.S. Census Bureau and the National Compensation Survey from the Bureau of Labor Statistics, the CRI estimates that 46 percent of private sector workers lack access to an employer-sponsored plan, representing about 57.3 million workers as of 2020. This general lack of coverage is anticipated to grow to more than 64 million by 2040 if current trends continue.[33]

**…the CRI estimates that 46 percent of private sector workers lack access to an employer-sponsored plan, representing about 57.3 million workers as of 2020.**

Researchers from the Center for Retirement Research at Boston College report the median 401(k)/IRA account balance for working households approaching retirement (ages 55–64) was $144,000, which — depending on assumptions — may generate approximately slightly more than $500 per month in supplemental income.[34] For lower-income households that are less likely to have access to retirement savings plans through their employers, the retirement readiness gap is even more stark: Among workers with the lowest 20 percent of income, 79 percent have no 401(k) accounts and the median account balance is only $32,200 for those who do have a 401(k).[35]

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[28] Financial Security Program and Emy Urban, "Five Charts That Illustrate the Size and Scope of Consumer Debt," (Washington, DC: The Aspen Institute, September 14, 2018).
[29] Federal Reserve Bank of New York, Center for Microeconomic Data, "Quarterly Report on Household Debt and Credit (2022: Q1)" (New York, NY: Federal Reserve Bank of New York, May 2022).
[30] LIMRA, "LIMRA Secure Retirement Institute: $30,000 in Student Loan Debt Could Mean $325,000 in Lost Retirement Savings" (Windsor, CT: LIMRA/LL Global, November 23, 2015).
[31] John Waggoner, "Student Loan Debt Is an Unheralded Burden for Older Borrowers" (Washington, DC: AARP Public Policy Institute, October 30, 2021); see also, Lori A. Trawinski, Susanna Montezemolo, and Alicia Williams, "The Student Loan Debt Threat: An Intergenerational Problem" (Washington, DC: AARP Public Policy Institute (AARP, May 14, 2019).
[32] Annie Nova, "Coronavirus relief bill makes it easier for companies to pay down workers' student loans" (CNBC.com, January 21, 2021).
[33] Antonelli, "What Are the Potential Benefits of Universal Access to Retirement Savings?"
[34] Alicia H. Munnell and Anqi Chen, "401(k)/IRA Holdings in 2019: An Update from the SCF (Boston, MA: Center for Retirement Research at Boston College, October 2020).
[35] Ibid.

In the United States, workers today are much more likely to save for retirement if they have access to an employer-sponsored retirement savings plan. Although workers can establish their own retirement savings accounts if they lack such access, they rarely do so in practice, and are 15 times more likely to save for retirement if they have access to a payroll deduction savings plan at work. Workers at firms that provide an employer-sponsored plan are considered to have access to coverage, even if they do not choose to participate.

The gaps in access to retirement savings plans are greater among younger workers, women, Latinos, African Americans, and lower-income workers. Access to retirement savings plans also varies significantly by employer size and industry. Larger employers — for example, those with more than 500 employees, and in sectors paying higher wages — are more likely to offer retirement savings plans to their workers than smaller or lower-paying ones. These differences contribute to variations in access among demographic groups and widen access gaps among different segments of the population.

## C. Efforts to Address the Retirement Savings Challenge

Policymakers in the United States have developed and started to implement reforms intended to close the gap in private sector retirement savings access, encourage savings, and strengthen the retirement readiness of workers. Such efforts are not unique to the U.S. — other countries have already adopted a mix of public and private models to move toward universal access, which has resulted in significant retirement asset accumulation over time.

In the absence of federal action, states have taken the lead to close the access gap. Since 2015, 16 U.S. states have adopted innovative public-private partnership models to expand access to retirement savings options for their workers. The most common model adopted to date has been an automatic enrollment individual retirement account (auto-IRA), which requires employers who do not already offer their workers a retirement savings plan to facilitate their workers' savings through the state program. Other models adopted by a few states include voluntary multiple employer plans (MEPs), marketplaces, and voluntary payroll deduction IRAs.[36]

**As of April 30, 2022, state-facilitated retirement savings programs are administering more than $453 million in assets, have more than 67,000 registered employers, and have 470,000 funded accounts — and they are just starting.**

These new state programs are launching, providing many employers and their employees with new ways to save, and the number of new accounts and assets is now growing at a steady pace. As of April 30, 2022, these state programs are administering more than $453 million in assets, have more than 67,000 registered employers, and have 470,000 funded accounts — and they are just starting.[37] This reflects primarily three states to date, with several other states launching in 2022 and 2023. Surveys of employers and employees in these programs show that most employers find the programs easy to use with little to no cost to them and that the programs help improve the feeling of financial security among employees.[38]

The efforts of the states to shine a bright spotlight on the access gap has arguably helped to propel federal reforms to support the broader adoption of retirement savings plans by employers. In 2019, Congress passed the SECURE Act (P.L. 116-94) to expand the adoption and improve the design of DC plans. The Act

[36] For more information about these models, see "State-Facilitated Retirement Savings Programs: A Policymaker's Guide to ERISA and the Tax Code for IRAs and 401(k)s" (Washington, DC: Georgetown University Center for Retirement Initiatives, March 2021).
[37] For updates on assets and other state program performance metrics compiled by the Georgetown University Center for Retirement Initiatives, view https://cri.georgetown.edu/states/state-data/.
[38] Pew Charitable Trusts, "Is the OregonSaves Retirement Program Expensive for Employers?" (Washington, DC: Pew Charitable Trusts, Issue Brief, May 5, 2021); "OregonSaves Auto-IRA Program Elicits Few Questions from Employees (Issue Brief, March 31, 2021); "Many in Illinois Retirement Savings Program Feel Their Financial Security Is Improving" (article, April 18, 2022).

expands the categories of workers eligible to participate in employer-sponsored retirement savings plans, creates Pooled Employer Plans (PEPs),[39] allowing small employers to come together and "pool" resources through a pooled plan provider (PPP); and significantly increases the tax credits and incentives to encourage employers to adopt new retirement plans.

The private sector is now rising to the challenge of being innovative and designing new options that can help meet this need. Retirement plan providers long ignored the small-employer market and their workers. Now that they are seeing interest in saving from both employers and workers, there is increasing robust innovation and competition in the private market to offer these employers more attractive, simple, low-cost plan options as alternatives to a state program. More recently, there has been an explosion of new FinTech firms developing solutions to serve this market.[40]

## D. Why Solving for Retirement Income is Even Harder

While we have begun to see some progress by policymakers at the state and federal level as well as the private sector work to close the access gap, in the end, the success of our retirement system should be measured by whether it has improved retirement income outcomes. While universal access is important, we know from the experience of other countries that universal access does not mean they also provide their retirees with ways to generate and secure a reliable income to last a lifetime.

**While universal access is important, we know from the experience of other countries that having universal access does not mean they also provide their retirees with ways to generate and secure a reliable income to last a lifetime.**

In the United States, the most recent reforms that are part of the SECURE Act take modest initial steps to address this lifetime income challenge. The SECURE Act includes provisions requiring plan sponsors to provide new periodic lifetime income disclosures intended to help plan participants better understand their long-term retirement income needs; provides a safe harbor for including a lifetime income product in a retirement plan; and supports the portability of lifetime income from one plan to another if a plan no longer holds the investment option.

However, Congress is once again poised to do more. It is considering additional legislative reforms to expand coverage by enhancing employer tax incentives to adopt new retirement plans, encouraging the use of auto-enrollment, increasing the age for required minimum plan withdrawals, helping savers with student loan debt by allowing employer matches, and supporting emergency savings.[41] In addition, other proposed reforms also are intended to help plan sponsors and plan participants manage their assets, including greater flexibility in distributions, adjusting limits associated with longevity annuity contracts, supporting partial annuitization, and reducing leakage by helping plan participants find and recover plan benefits.[42]

The future is encouraging. We *can* build a new personal pension for the 21st century. Participants in the 2021 Policy Innovation Forum shared that plan sponsors, working with providers and consultants, can design plans that effectively and efficiently offer their workers a secure, reliable income in retirement, but they also need to be supported by policymakers in their efforts to do so.

The balance of this report turns to our understanding of retirement income and spending; the inherent risks that can jeopardize how much and long income can last; and the innovative tools and strategies, informed by experience both in the U.S. and globally, available to plan sponsors to design plans that support the needs of plan participants.

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[39] These are similar in many ways to what already existed as MEPs (Multiple Employer Plans). The differences between MEPs and PEPs are subtle. The U. S. Department of Labor (DOL) requires that employers joining a MEP share a commonality of interests, such as an association of businesses in the same field (e.g., lawyers, Realtors, plumbers) or in the same locality (e.g., a particular state). PEPs are not covered by the commonality requirement. The provision allows businesses that are not in the same industry to create scale by coming together in one plan administered by a qualified PPP. In addition, the entities that administer PEPs are required to register with the DOL and the Treasury Department.

[40] Janice Kirkel, "Newer Retirement Plan Providers Tout Their Value Proposition" (New York, NY: PLANSPONSOR, September 1, 2021).

[41] U.S. Senate Committee on Health, Education, Labor and Pensions, Senators Murray, Burr Release Draft of Legislation to Strengthen Families' Finances, Bolster Emergency Savings, Improve Retirement Security, press release, May 26, 2022.

[42] U.S. Senate Committee on Finance, Wyden Releases Outline of Bill to Bolster Retirement Savings, press release, June 17, 2022.

# IV. The Annuitization Puzzle: Is the Disconnect Narrowing Between Interest and Action?

***Key Takeaways:***

- Retirees often spend too little or spend too much in retirement, which affects their quality of life in old age.
- Securing a reliable income in retirement may have many benefits, including improved health and lifestyle outcomes.
- It may be time for a new 21st-century "personal pension" that can generate a retirement income paycheck tailored to individual needs and preferences.
- Defaults have proven effective in helping participants become better savers, and also can be used as part of income options while still allowing for flexibility and customization in design.
- Technology and data can help "personalize" retirement plans, but consumer privacy concerns must be carefully considered.

There are more almost 72 million baby boomers in the United States who are either retired or expect to retire soon.[43] Today's retirement system has transitioned away from offering traditional DB plans to DC plans. Traditional pensions were not perfect and not everyone had access to one; although they provided a paycheck in retirement, workers who did not stay with their employers for long enough, for example, would often never see the benefits. To create a 21st-century retirement system, we should explore how DC plans can seek to emulate one of the better aspects of a DB plan: creating a retirement income paycheck that can be counted on, while figuring out a way to personalize it to individual needs, longevity, and circumstances.

There are challenges to accomplishing this. DC retirement plans were intended to be a supplement to traditional pensions, not a substitute for them. Thus, DC plans were intended for saving and accumulating assets, but not designed to facilitate decumulation and create a retirement paycheck. At the same time, people are living longer and retiring earlier, by choice or involuntarily, so they are spending more time retired and/or working less and, as we know, many are not saving enough in their DC retirement plans.

## A. The Role of Secure Income in Optimizing Spending in Retirement

**The number one concern of baby boomers is not about being sick in old age; it is about not being able to pay for healthcare or other expenses. Boomers fear running out of money.**

The number one concern of baby boomers is not about being sick in old age; it is about not being able to pay for healthcare and other expenses. Boomers fear running out of money. This fear results in retirees often making one of two mistakes in retirement: They either spend too much or they spend too little, and needlessly deprive themselves of things or experiences that can bring them joy and an improved quality of life.

Several studies challenge claims that individuals do not like traditional pensions or annuities because such approaches lock up money and do not offer liquidity. The research shows that anywhere from 25 percent to almost 90 percent of people surveyed in DB-type arrangements will choose the lifetime income option over a lump sum distribution.[44] However, the percentage of people in a DC plan choosing

[43] Richard Fry, "Millennials overtake Baby Boomers as America's largest generation" (Washington, DC: The Pew Charitable Trusts, Fact Tank, April 28, 2020).
[44] Shlomo Benartzi, Alessandro Previtero, and Richard H. Thaler, "Annuitization Puzzles" (Nashville, TN: American Economic Association, *Journal of Economic Perspectives*, Vol. 25, No. 4, Fall 2011), pp. 150–154.

to annuitize is the lowest. This may be attributable to the fact that account balances in DC plans are more modest, and it might not make sense to annuitize small balances. Perhaps more significantly, though, DC plans are simply not designed for this purpose.

According to the 2019 Willis Towers Watson Lifetime Income Solutions Survey, only 30 percent of DC plans include lifetime income solutions, and most of these are "systematic distribution arrangements and planning and education tools."[45] For those who do offer such solutions, only 15 percent include either in-plan or out-of-plan annuities. Unfortunately, according to the Alliance for Lifetime Income, as many as 6 of 10 Americans do not understand annuities, and the role they play in creating lifetime income.[46] An annuity is a contract with a life insurance company that you purchase with all or a portion of your retirement savings. A large body of survey work exists trying to better understand why annuities have not gained much traction with retirement savers. Many believe there is a need to communicate the function of an annuity more effectively. Framing it as a retirement paycheck and what it means for spending in retirement may be easier to understand. However, interest is growing among workers for their retirement plans to help them generate retirement income. In response, there has been significant innovation in the types of products and solutions available.

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Traditional pensions have a significant influence on life satisfaction. People with pensions are more satisfied with their lives than those who do not have one. As people without pensions become older and live longer in retirement, they experience more life dissatisfaction, while those with pensions continue to have higher satisfaction levels.[47] This peace of mind has value for some people, which might be because it contributes to optimizing spending in retirement. In "Guaranteed Income, A License to Spend," researchers David Blanchett and Michael Finke conclude that households holding more of their wealth in guaranteed income spend significantly more each year than retirees who hold a greater share of their wealth in investments.[48]

Blanchett and Finke compared the consumption levels of retirees who had different holistic asset structures, some dominated with guaranteed income versus others dominated by savings (such as a 401(k) or an IRA). Their research indicated that those with more wealth in pensions (i.e., guaranteed lifetime income) spent significantly more than their peers, especially among households in the middle/upper-middle class. From an economic perspective, this is a rational response in risk-averse individuals who perceive themselves as having an average lifespan because they are not going to risk the possibility of running out of savings.

This is where the opportunity now exists. Is it possible to modernize the design of DC plans to deliver lifetime income, and are there clear benefits to doing so?

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[45] Willis Towers Watson, 2019 Lifetime Income Solutions Survey.
[46] Terry Turner, "Most Pre-Retirees Have Limited Knowledge, Heightened Interest in Annuities," RetireGuide.com.
[47] Constantijn Panis, "Annuities and Retirement Satisfaction," *RAND Labor and Population Program Working Paper Series*, no. DRU-3021 (2003).
[48] David Blanchett and Michael Finke, "Guaranteed Income: A License to Spend," published July 13, 2021.

## B. The Potential Role of Secure Income in Optimizing Healthy Behavior

People who are healthy are more likely to buy an annuity because they assume they will live longer and derive more income from an annuity than those who are less healthy. But does buying an annuity or other retirement options have an impact on personal behavior? Researchers decided to test a counter-intuitive causal relationship between health and lifetime income choices. A recent study examined whether thinking about having an annuity or a lump sum motivated people to become healthier. The study found that when people thought about having an annuity, they were more inclined to exercise and were more excited about healthy behavior when compared to thinking about a lump sum.[49]

Although much more research is needed to fully understand the relationship between healthy lifestyles and retirement income outcomes, it offers an interesting perspective for how policymakers could start thinking about the impact of financial problems on healthy behavior and well-being. If some people find that the thought of lifetime income makes them happy, and they are thus more likely to engage in healthy behavior, it might suggest that it is beneficial to reinvent or recycle the idea of pension (defined as the concept of a retirement income paycheck, not necessarily a specific design) in our retirement system to fit the 21st century.

## C. Is It Time to Reinvent a "Personal Pension" for the 21st Century?[50]

A provocative and innovative way of framing the future of retirement income was posed by Dr. Shlomo Benartzi: might a 21st-century "personal pension"[51] be a new way forward? It is not a traditional DB plan, and it is not an annuity without any liquidity (there are other types of annuities that can address the need for liquidity). But what would be needed to design it?

1. *A financial engine to project income needs.* This would make projections based on individual tradeoffs to accurately assess how to give people a sustainable paycheck without taking away liquidity, which individuals do not want to give up, especially taking into consideration that a concern about annuities is locking up funds and losing access to those funds.

2. *A tradeoff engine to determine preferences.* People are not necessarily good at evaluating the many tradeoffs based on their desires in retirement; for example, wanting to travel a lot while still wanting to leave lots of money to their children, etc. This would help people make behavioral tradeoffs to decide whether that means stop working now, retire earlier, and get a smaller paycheck versus work longer, retire later, and get a bigger paycheck. It is important to bring these tradeoffs to life and help people easily understand them in the most basic, intuitive way because in the 21st century, people expect flexibility to be able to address changes in their circumstances.

3. *A longevity model to capture significant differences in life expectancies.* For example, it is possible to examine life expectancies at the ZIP code level, and it can be eye-opening by showing the significant variations that exist. There is a lot of variability in longevity that should considered.

4. *A way to address longevity risk without relying solely on longevity insurance.* Offering liquidity, or access to funds, means there will be a risk of running out of money. What we have today with longevity insurance has shortcomings; for example, it is nominal, so if it is only available starting at age 85, then those dollars will not be worth as much. Arguably, individuals also care about both investment and longevity risk. For such reasons, it may be useful to reevaluate when longevity insurance is appropriate.

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[49] Shlomo Benartzi, Simona Botti, David Faro, and Anja Schanbacher, "The Psychological Impact of Annuities: Can Pension Payout Choice Influence Health Behavior?" (Chicago, IL: *Advances in Consumer Research*, Volume 46, January 2018), pp. 775–776.

[50] This section is a summary of a Forum keynote presentation by Dr. Shlomo Benartzi, professor emeritus and co-founder of the Behavioral Decision-Making Group at the UCLA Anderson School of Management and a Distinguished Senior Fellow at the Wharton Behavior Change for Good Initiative. He also is a senior academic advisor for the VOYA Behavioral Finance Institute for Innovation, as well as Acorns, Blast, Lili, Personal Capital, and Wisdom Tree.

[51] The use of the term "personal pension" is intended throughout this paper to simply refer to the concept of producing a stream of retirement income, and it can encompass different designs. This general terminology is not to be confused with the personal pensions offered in the United Kingdom as a type of DC retirement plan arrangement. For more information on the U.K. example, see https://www.moneyhelper.org.uk/en/pensions-and-retirement/pensions-basics/personal-pensions.

As Dr. Benartzi points out, in helping workers prepare for retirement, there are a lot of tradeoffs that the industry currently does not do enough to help individuals understand, but are important to them, such as how much they want to leave to their children or a favorite charity. There could be more simple, intuitive tools designed to help them. For example, helping people understand the impact on their monthly income of retiring at different ages, by explaining what it means for their Social Security benefits, can help to optimize well-being.

Another flaw in the current retirement system is that it is too often assumed that people will spend the same amount year after year. This does not reflect reality for many people because spending will vary over time in retirement. Instead, there are two groups of people: one group that wants to spend less today and more later, and another that wants to spend more today and less later. In the old DB system, payment plans could not be personalized for these different types of people, but now, with new technology, we can think about how to personalize these retirement income paychecks to the needs of the individual.

Unlike the accumulation phase, individual spending in the decumulation phase is more varied and complex. Thus, the need for greater personalization and flexibility in the design of a plan's decumulation phase becomes much more important. But how is this balanced with the challenge that, while workers may want flexible solutions that meet their different needs, too many often do not respond to the tools and information provided and thus fail to act?

## D. Balancing the Use of Defaults with the Need for Personalization

Plan design, informed by behavioral finance — such as the use of auto-enrollment, auto-escalation, default contribution levels, and new or revised employer matching contributions — has increased plan participation rates and encouraged higher savings levels. Employers are using more-engaging communication, education, and outreach efforts to help participants begin to save, while simplifying their fund choices to make it easier for workers to make investment decisions. For example, target date funds (TDFs) have become the most popular qualified default investment option for retirement plans, so they have helped plan participants accumulate significant savings.

**… some workers may want lifetime income solutions that are "do it yourself" and assume the responsibilities for making the right choices on their own; others may want a "do it for me" approach to lifetime income generation, where plan sponsors and providers offer solutions that allow workers to "set it and forget it."**

In the same way, some workers may want lifetime income solutions that are "do it yourself" and assume the responsibilities for making the right choices on their own; others may want a "do it for me" approach to lifetime income generation, where plan sponsors and providers offer solutions that allow workers to "set it and forget it." However, when it comes to decumulation, the use of defaults has to be carefully weighed against the varied and complex preferences and needs for income and the more individualized nature of spending in retirement. Careful weighing of the tradeoffs is required in plan design.

The use of defaults helps to increase adoption of lifetime income solutions but could reduce the flexibility and liquidity to meet the needs of the individual in the decumulation phase. The availability of a menu of products, solutions, tools, and services also referred to as the "retirement tier,"[52] may reduce the interest in defining default choices because plan sponsors can choose from a limited set of prescribed choices that can meet participants' preferences. At the same time, some providers say they are moving away from broad, one-size-fits-all education messages to a communication style that uses data and information to meet individual needs. This customization in messaging includes incorporating the right wording, formatting, and timing. An example of this would be providing information that are tailored toward specific generations, such as social media for millennials and Gen Z, and call hotlines for baby boomers.

Despite all the merits of customization, however, there are benefits to uniformity that come with the use of default options. Any default product should be flexible and supplemented with an personalized component. It is possible

[52] "Retirement tier" is a broad term defined as "a range of products, solutions, tools, and services, all of which allow a DC plan sponsor to broaden the plan's goal from one wholly focused on savings to one that also accommodates and supports participants who are near, entering, or in retirement." For more information, refer to DCIIA's Retirement Tier resources at https://dciia.org/general/custom.asp?page=RetirementTier.

to design one or more default options that can provide a basic income with some portion of savings, while giving individuals other options for the balance of their accumulated savings that addresses concerns about flexibility and liquidity. It could be possible to construct the architecture in a way that offers choice, but also limits the permutations of customizations to avoid "choice overload." If you give people no choice, they are unhappy. If you give them 20 choices, they will be overwhelmed, unhappy, and likely not to take action. A middle ground could be a small number of default options supported by a decision engine that walks people through the choices with attention to framing and structure informed by income needs and preferences. Technology and data can facilitate this. For 95 percent of plan participants, a default might provide an optimal outcome, and the remaining 5 percent can request more personalized solutions.

A downside of too much customization is that you dilute the effectiveness of pooling assets. Traditional DB plans worked because everyone was in the same one-size-fits-all pool. The power of pooling individuals leads to better outcomes than current DC plans with individualized accumulation and decumulation. The importance of pooling has to be considered when discussing customization plans because having too many diverse products may weaken the cost-effectiveness and benefits of those solutions.

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The current legal and regulatory landscape also remains a constant consideration. DC plan sponsors remain concerned about litigation risks associated with including any kind of lifetime income solution, and this has contributed to the modest adoption rates by plan sponsors to date. Plan sponsors are often hesitant to operate without any approved guardrails in the form of safe harbors. This suggests that the industry may ultimately prefer to see one or more universal default options, such as a longevity annuity, that can be combined with other solutions that address the need for flexibility and personalization.

The passage of the SECURE Act, which requires plan sponsors to provide annual lifetime income disclosures to participants, will contribute to greater attention to such design considerations by plan providers, plan sponsors, and participants. In addition, the U.S. Department of Labor has suggested that it might consider some options, such as longevity insurance, that plan sponsors could offer as a default. Federal regulators are not likely to endorse one type of insurance or solution over another type, but they could describe some characteristics of a product or solution and allow it as a default option. Those statements about default options would not be inconsistent with the plan sponsor's fiduciary obligations and would address some of the liability concerns. The objective of such regulation would be used to encourage default options while helping providers deal with the threat of lawsuits.

## E. Improving Retirement Income Outcomes: Freedom of Choice vs. Freedom from Choice

*"Freedom of choice,*
*It's what you've got*
*Freedom from choice*
*It's what you want."*

These lyrics from a 2004 song by A Perfect Circle may well sum up the challenge policymakers and the financial industry face in determining the future of our retirement system and the need to improve retirement income outcomes.

While people today seem more focused than ever on options tailored to meet their individual needs and wants, the reality is that when given options, they do not always act in their best interests and make rational choices. In fact, when it comes to a complex but important financial decision, such as planning for a secure income in retirement, limiting choices may lead to better outcomes. However, limiting choices does not mean that the few choices offered are not well-designed, guided by decision tools and personal data, and can ultimately offer most of the plan participants what they need.

For this reason, the market continues to innovate and offer many types of investment and income solutions. While TDFs have been the Quality Default Investment Alternative (QDIA) for many DC retirement plans, the possibility of a QDIA 2.0 may look very different, with more than one default option, each offering different lifetime income solutions. At the same time, new tools — one example mentioned is the Retirement Income Style Awareness (RISA) framework — can help workers match their actual preferences with solutions that work for them.[53]

This approach also reflects a shift in how we think about the accumulation and decumulation phases of retirement, and how they can be integrated effectively within a plan to optimize retirement income outcomes. As is discussed later in this report, this is referred to as creating a one-pot option for how to design for retirement income, and effectively combining the asset pool and decumulation pool into one pool. On the other hand, the accumulation and decumulation pools can continue to be managed separately in a two-pot model, keeping the accumulation of assets separate from the decumulation pool of assets, which is more common today.

Regardless, some have raised as a concern that we wait too late — until close to the time of retirement — to facilitate participants making retirement income decisions. Indeed, it might be far better to start engaging people 10 to 15 years before retirement to ask them about their long-term financial goals for retirement and how they want to spend at that time. These questions could help them make better decisions. Asking people earlier can also foster better relationships, where employees feel comfortable asking for retirement advice. Given that retirement is not always people's biggest concern when younger, there can be important financial wellness benefits to employers by engaging their employees on regular basis — it could contribute to gentle and effective nudges that will put individuals in a better position far sooner for that time when they stop working and need that "personal" retirement paycheck.

**The technology exists today to gather very granular data about personal preferences and behavior. The challenge … will be to determine what is acceptable and what is not when it comes to personal privacy, and the potential for unintended negative consequences.**

Finally, any future discussions must continue to examine the use of technology more thoroughly, and more specifically, how the industry collects and uses specific data to deliver the "personal pension" of the 21st century. The technology exists today to gather very granular data about personal preferences and behavior. For example, information about longevity in populations can be collected through ZIP code data, as noted. There can be wide differences in longevity between neighborhoods in close geographic proximity. And what about data based on social media engagement?

The reality is that plan sponsors already have a lot of information that can help them offer products that better meet the different needs of their employees. The challenge for the retirement industry and individuals will be to determine what is acceptable and what is not when it comes to data mining and personal privacy, and the potential for unintended negative consequences of access to such personal information.

[53] The RISA framework was developed by Alex Murgia, Bob French, and Wade Pfau of the Retirement Researcher consulting firm. https://retirementresearcher.com/retirement-income-style-awareness-profile-risa-and-its-accuracy/.

## V. The Promise, Perils, and Prospects for Income Products: What are the Latest Innovations and How Do We Solve for Risks in Design?

***Key Takeaways:***

- There will be more new retirement solutions that will provide secure, reliable income, while being flexible to the needs of retirees.
- Research and education initiatives can help plan providers and plan sponsors find the best types of solutions for plan participants.
- Investment strategies must address a variety of short-term and long-term risks to protect a retirement paycheck.
- The future of retirement income innovation will ultimately depend on not only the design of solutions, but the ability to forge effective partnerships with a range of providers, including asset managers, insurance companies, and recordkeepers, to implement them.

In June 2019, before enactment of the SECURE Act in December 2019, the CRI and Willis Towers Watson published a paper titled "Generating and Protecting Retirement Income in Defined Contribution Plans"[54] that examined how different income solutions in DC retirement plans can affect retirement income outcomes. These include both guaranteed and non-guaranteed, as well as in-plan and out-of-plan, options.[55] The paper also evaluated solutions based on how they address types of risks, such as longevity, inflation, market, and decision, along with taking the need for liquidity into consideration. The purpose was to analyze the tradeoffs with an assumption that there is no one-size-fits-all design for all plan sponsors and their participants.

Many solutions are much further along in their development than they were two years ago, and there is also more implementation of solutions. At the same time, there is also more of an effort, through surveys and research, to better understand the opportunities and challenges for both plan sponsors and participants. The annual Willis Towers Watson global benefits survey[56] asks participants what would help them save for retirement. The number one answer, regardless of current financial wellbeing and whether they were struggling or felt they were financially secure, was guaranteed retirement income. Respondents value a secure retirement income over capital preservation when given the choice.

Now that the SECURE Act has provided some additional legal and regulatory support, the market is responding with more innovation in the products and solutions offered. The current focus is more about adoption and implementation. Can we construct the design to make it work well for both plan sponsors and plan participants? Will participants use these new tools and products? The industry is trying to understand that landscape better and then figure out where they fit and how to take action.

**Now that the SECURE Act has provided some additional legal and regulatory support, the market is responding with more innovation in the products and solutions offered. The current focus is more about adoption and implementation.**

[54] Georgetown University Center for Retirement Initiatives, "Generating and Protecting Retirement Income in Defined Contribution Plans" (Washington, DC: Georgetown CRI, June 2019).
[55] The solutions examined include an immediate annuity, a laddered bond portfolio, a TDF using a systematic withdrawal plan, a managed payout fund, a TDF with a deferred annuity, and an investment portfolio with a guaranteed minimum withdrawal benefit (GMWB).
[56] Willis Towers Watson, "2020 Global Benefits Attitudes Survey, United States."

Plan sponsors are often implementing different solutions, with the decision path relating to what role they want to have as employers, and how they can best meet the needs of their employees based on what they know about their employees and their behaviors and preferences. Some level of trust has to be established between employees and employers when implementing these plans. Many employees do, in fact, trust their employers to provide the right plan because they trust their organization. Plan sponsors need to be able to forge effective and integrated partnerships with providers, including asset managers, insurance companies, and recordkeepers, to remove certain barriers and meet the needs of plan participants. Progress is being made, and there will be more innovative solutions and implementation success stories in the next few years.

## A. Innovation in Design and Solving for Risks

The retirement solutions of the future will have to be easy to understand and flexible. Plan participants want more control, flexibility, and liquidity to address life events, such as changes in health or economic status. Managed payout funds, longevity insurance, and emergency funds may play a larger role. The private sector continues to develop new products, and it will be important to keep the process easy to understand, easy to access, and flexible to create the most favorable and engaging experience for participants. At the same time, greater attention is also being given to the design of tontines and collective defined contribution (CDC) plans, which are discussed in greater detail.

If DC plans are going to provide the secure, reliable income that participants say they increasingly want in their retirement plans, it suggests that the plans of the future will incorporate some solution or combination of solutions, including one or more default options. As we learn more about participant preferences and retirement income needs, it also may be pushing the industry to rethink the accumulation phase and the design of investments.

Although there is growing demand for protected income, interest rate risk — until recently reflected in persistently low interest rates — and other risks can always make it more challenging to achieve such a goal. Inflation risk, for example, which had not been a concern for several decades, is now a serious challenge. A sustained high level of inflation erodes the purchasing power of income. Products that offer the power of pooled funding, whether in an annuity or a tontine, will become more attractive because they can provide a higher income, which helps to address inflation risk, while also addressing longevity risk.

**… asset allocation must provide people with the right risk control.**

To generate sustainable lifetime income, asset allocation must provide people with the right risk control. Without this component, the retirement paycheck is neither predictable nor stable. The notion that additional equity exposure, for example, helps address longevity risk may be flawed. A research study titled "Investing for Retirement Income: A Comparison of Asset Allocation and Spending Strategies"[57] assumes a 30-year retirement (10 years longer than U.S. life expectancy at age 65) with a higher percentage of equity exposure *increases* the likelihood of falling short of projected targeted income and longevity risk.

This research is intended to illustrate how liability-driven investing (LDI) can affect lifetime income. The premise that high equity risk is always necessary or desirable should be questioned. Many TDFs expose participants to an amount of equity risk that results in little additional retirement income at the cost of substantially heightened risk. Currently, a lot of TDFs have a benchmark of 50 percent at the time of retirement. This 50 percent threshold is quite aggressive in comparison to lower allocations. An example of implementing LDI would result in a portfolio of Treasury Inflation Protected Securities (TIPS) maturing each year over 30 years by helping to hedge against inflation and interest rate risk. The core conclusion of this research is that an income-focused approach delivers a similar retirement standard of living at lower risk.

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[57] Mathieu Pellerin, "Investing for Retirement Income: A Comparison of Asset Allocations and Spending Strategies" (SSRN, July 6, 2021).

Reaping the full benefits of income-focused investing requires income-focused communication. Such a shift requires leadership from asset managers, who must provide investment solutions that manage the relevant risks and offer clarity about future retirement income — otherwise, reliable projections are impossible. Plan sponsors, platforms, and regulators must also move toward participant statements that emphasize projected, inflation-adjusted income. Otherwise, the impact of inflation and interest rate risks will remain invisible to participants, and TDF providers will have few incentives to address them. The income disclosure requirements of the SECURE Act, while incomplete, are an encouraging first step, and a signal that the days of fixating on account balances may be numbered.

## B. The Accidental Plan Sponsor: Reevaluating the Role of Employers

A critical question about the structure of retirement systems both in the U.S. and globally is the role employers play helping employees prepare for and transition into retirement. In many ways, employers today face a lot of pressure and legal scrutiny as retirement plan fiduciaries.

These pressures may only deepen if they take on the broader challenges of not just retirement but overall financial well-being of employees. Today, there is a greater understanding of how financial stress affects employee productivity and the ability to do a job well. Yet there is legitimate questioning of the role of employers and how much more they can and should be expected to take on, and what would necessarily lead to the best outcomes for their workers.

Many of today's large employers will continue to find it advantageous to maintain and administer their own employer plans (single employer plans). However, for many small employers, too often the options available are overwhelming to evaluate, complicated and hard to implement, and often too expensive, so those employers choose to do nothing.

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As previously discussed, the challenges of closing the access gap and generating retirement income suggest it may be time to reevaluate the role of employers in our retirement system. The concept of decoupling retirement plans from employers can help to cover more workers by reaching more of the smallest employers and the growing number of contingent or "gig" workers who lack access, while also making easier for a worker to keep saving in the same plan if they change employers and, by doing so, help to reduce plan leakage.

State-facilitated retirement savings programs, as well as newly authorized Pooled Employer Plans (PEPs), are examples of recent developments that can prove attractive to more employers if they reduce the costs and risks of offering a retirement savings option. By helping to achieve scale while reducing risks and costs to employers, these new designs may be better suited to integrating lifetime income solutions and demonstrating that they can deliver better value for cost.

## Lifetime Income Disclosure: What is Too Much, Too Little, or Just Right?

During the Obama Administration, the Treasury Department created a lifetime income calculator and began to consider providing guidance to plans sponsors about information to help guide the distribution phase at retirement. For some time now, federal regulators have been thinking about how to encourage more annuitization or other types of lifetime income distribution models.

The passage of the SECURE Act in 2019 forced regulators to figure out how to provide guidance about lifetime income disclosure requirements. There has been considerable debate among all the key stakeholders in the retirement industry about the types of information that should be provided; for example, whether you focus on a participant's current balance and what level of income it would produce at retirement versus providing more detailed projections based on current contribution levels. The challenge, as noted, is that decumulation is changing and dynamic, with inherent risks.

The retirement savings projection for someone who is 25 years old is certainly different from that for someone who is 60 years old. However, even if two 25-year-olds have the same account balances, they may view those projections differently based on their own personal goals, spending habits, and risk preferences. Although there are certain sensible assumptions in DC plan projections, people will be unable to know for sure how much money will be in their retirement accounts when they retire, which is why sponsors feel uneasy about making those types of predictions.

The Department of Labor's Employee Benefits Security Administration (EBSA) issued an interim final rule* on August 18, 2020, that said DC plans are required, under the new SECURE Act provisions, to include two lifetime income illustrations of a participant's account balance converted to a lifetime income equivalent at least once every 12 months.

Because it is an interim final rule, the DOL is still receiving feedback about ways to improve that rule. Plan sponsors are now beginning to implement the rule. A consideration for DOL in making any future changes to the rule will be the possible additional costs for plan providers and sponsors to adopt any changes.

**U.S. Department of Labor, Employee Benefits Security Administration, 29 CFR Part 2520 RIN 1210–AB20 Pension Benefit Statements — Lifetime Income Illustrations; Federal Register, Vol. 85, No. 182, September 18, 2020, pp. 59132–59161.*

# VI. Lessons in Behavior: Should Automatic Savings Tools Lead to Automatic Income Mechanisms?

***Key Takeaways:***

- Balancing the use of defaults with the demands for customization and flexibility remains unresolved not only in the United States, but in other countries around the world.
- Industry can do more to engage individuals much earlier than they do today to help optimize retirement income, including something as easy as helping individuals understand the impact of when they claim Social Security benefits.
- Because mandatory annuitization is unlikely in the United States, the preferred choice architecture is the use of defaults and limited options.
- The new Australian Superannuation retirement income framework is designed to balance maximizing retirement income, managing risks, and having some flexible access to savings.

**Balancing the use of defaults with the demands for choice and customization remains unresolved in the United States and in many other countries around the world.**

The effectiveness of behavioral tools in the accumulation phase raises important questions about how such tools and lessons can and should be applied in the decumulation phase. Unlike the "set it and forget it" approach reflected in the use of automatic mechanisms that successfully boost retirement savings, the approach to securing a reliable retirement income is more complex. Balancing the use of defaults with the demands for choice and customization remains unresolved not only here in the United States, but in other countries around the world. If one thing is clear, it is that plan sponsors, plan participants, the industry, and its regulators will all have to work together to address this challenge.

## A. The Australian Experience: Implementing a New Framework for Retirement Income

The Australian Superannuation system, a compulsory DC savings system, is a relatively young system introduced in 1992, but it has been successful in helping to build a significant amount of retirement savings. Employers are required to contribute 10 percent of an employee's earnings to a retirement account for workers between 18 and 70 years of age, which will rise to 12 percent by July 2025. Most employees are free to determine which fund they prefer their employers to pay into, but default investment funds are common. While benefits in retirement can be accessed through different income streams, most Australian retirees choose either the lump sum option or a phased withdrawal product.

While the Australian system was quite good at helping workers amass considerable savings, workers did not know how to effectively manage those savings in retirement. Some controversial government comments suggesting that workers should be free to decide how they want to spend their retirement savings may not have helped address this problem. In 2014, the Australian pension minister was subject to criticism for saying, "If people do get a Lamborghini and end up on the state pension, the state is much less concerned about that, and that is their choice."[58]

[58] "Minister fuels pension debate with Lamborghini comment" (BBC News, March 21, 2014).

Unlike the United States, Australia does not have a history of occupational DB plans from which to learn, and they also did not have the same well-developed insurance industry offering retirement income products. This contributed to challenges because so much of the attention was on the management of assets and growth of those assets, but not how to generate lifetime income.

The legal obligations of superannuation trustees focused primarily on the accumulation phase and there have been no obligations to consider the needs of members (participants) when they retire. This history contributed to an initial effort by the government to address the need for lifetime income by mandating a prescriptive retirement income strategy focused on non-guaranteed products and longevity annuities. However, there was not a lot of support for this approach, and the government has since changed course, adopting a new framework titled "The Corporate Collective Investment Vehicle Framework" in February 2022.[59]

**The new Australian retirement income framework is meant to address this gap. A trustee's retirement income strategy must consider how they will help their members balance maximizing their retirement income, managing risks to income, and having some flexible access to savings.**

The new Australian retirement income framework is meant to address this gap. A trustee's retirement income strategy must consider how they will help their members balance maximizing their retirement income, managing risks to income, and having some flexible access to savings. The goal of the new policy is to offer choice and competition in the retirement income phase and give retirees more confidence about spending their superannuation savings. Plan trustees must have their strategy formulated in writing and a summary publicly available as of July 1, 2022 but are not required to give effect to all components of their strategy by this date. Instead, strategies are expected to evolve and develop over time, and it has always been expected that superannuation trustees should consider the retirement needs of their members.

It is this concept of "profit for members" versus "profit for shareholders" reflected in the Australian legal framework that is worth noting. The organizations responsible for the design and implementation of plans matters, and if and how they are held accountable for costs, performance, and outcomes. In Australia, if a fund is not meeting the performance goals, it will be required to disclose its performance to its members and will not be allowed to take on new members.

## B. Mandatory Annuitization vs. the Use of Defaults and Customization

**At least 12 countries, such as the Netherlands, have effectively implemented mandatory annuitization in retirement. There is general skepticism about whether mandatory annuitization could ever be adopted in market-based economies like the United States, the United Kingdom, and Australia.**

At least 12 countries, such as the Netherlands, have effectively implemented mandatory annuitization in retirement. Many of these are Scandinavian countries, but in general, all these mandatory annuitization pension programs are based in tax rules, welfare rules, and social norms. There is general skepticism expressed about whether mandatory annuitization could ever be adopted in market-based economies like the United States, the United Kingdom, and Australia.

The U.K. already has had the experience of implementing and then repealing mandatory annuitization. As a result, the preferred choice architecture may be more supportive of the use of defaults and limited options.

When it comes to setting defaults, the risk is policymakers implementing it in a way that inadvertently stifles innovation and creates some unintended, potentially bad outcomes. However, the approach taken with the Pension Protection Act of 2006 in the United States can be illustrative because it allowed for the creation of a relatively general framework, and there was flexibility in the QDIA framework. That was the demand from employers because they knew that they be far less likely to be sued.

[59] Senator Jane Hume, Minister for Superannuation, Financial Service and the Digital Economy. "Retirement income covenant passes Parliament" (Canberra, Australia: Australian Treasury, February 10, 2022).

The private sector could be innovative and build new solutions. A similar type of approach could be effective with retirement income solutions: Just provide some sort of basic guidance using safe harbors. At the same time, the creation of new solutions also requires some consideration of a regulatory framework for industry oversight, transparency, and accountability.

There is general agreement that there is not a dichotomous choice between the use of defaults and the ability to deliver some customization or personalization of solutions. In the United States, more than half of savers have default investments and do not pay any attention to managing their portfolios over time. This also means they probably do not have the skills or interest to determine how to manage their money in retirement. For this reason, some default annuitization in retirement may be necessary.

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## C. The Application and Limits of Financial Education

Too often, educational outreach and information is done too late — when someone is ready to retire, rather than before. Connecting with employees 10 or 15 years before retirement will help them better understand their unique needs, preferences, and expectations for retirement, and what they will need to accomplish their desired goals. This may be as simple as highlighting existing simple, yet powerful tools, like a Social Security calculator that shows the difference in benefits depending on the age and income. Simple tools can have a large impact.

Nevertheless, research suggests that there are limits to what financial education, just-in-time decision aids, and disclosures can do to help improve retirement savings decisions. It is easier to believe that if you just offer more educational tools and strategies, people will make the decisions in their best interests. A significant percentage of the population is not financially literate, though, so financial education can help improve retirement savings and income outcomes. Unfortunately, people tend to ignore a lot of the information that is delivered to them. While it is still valuable to communicate essential facts, we must think about how we present that information. Indeed, some research has shown that "too much" information can be detrimental if it is leads to overconfidence and decisions that result in suboptimal outcomes, such as not saving enough or foregoing generous employer matches. Ultimately, reshaping the environment has more impact than education. Using choice architecture will be more successful than focusing on financial literacy alone.

**Unfortunately, people tend to ignore a lot of the information that is delivered to them.**

Industry can do more to engage individuals much earlier than they do today, including acquiring a better understand of how psychology can drive behavior. Recent research concluded that "small changes in [digital] design resulted in substantial increases in personalized enrollment, average contribution, the share of contributions exceeding the default rate[,] and, for plans with a match, the share of contributions with full match take-up. We estimate that the design-induced increase in saving is equivalent to that predicted by large, and presumably expensive, increases to the plan match."[60] This suggests small changes can lead to significant increases in savings rates equivalent to effects of auto-enrollment and exceed the benefit of the employer match. Timing also matters. Delivering information at times when it is most likely to be read and digested and understanding what that looks like is important. One case study found that the employer was delivering such information at precisely the time when employees were least receptive to receiving it.[61]

Another option gaining additional attention is the concept of a retirement dashboard. Recent work by the Brookings Institution notes that while the U.S. is ranked by the Organization for Economic Cooperation and Development (OECD) among the top for offering retirement information programs, these extensive resources remain scattered

[60] Saurabh Bhargava, Lynn Conell-Price, Richard T. Mason, and Shlomo Benartzi, "Save(d) by Design" September 2021.

[61] Capital Group, "Retirement readiness for all" (Los Angeles, CA: March 21, 2022).

across many different platforms. The concept of a retirement dashboard could help tie together an individual's financial information with these tools to inform and improve decision-making. The objectives of such a dashboard could range from simply finding lost accounts to helping individuals build complete pictures of their retirement benefits and options, while also linking to key useful sources of financial information and education resources. Several countries have implemented versions of retirement dashboards, including Australia, the Netherlands, Denmark, and the United Kingdom.[62]

**The concept of a retirement dashboard could help to tie together an individual's financial information with these tools to inform and improve decision-making.**

Finally, all this discussion of financial information and education also will raise questions about the distinct roles and responsibilities of plan providers, sponsors, recordkeepers, etc. There has to be consideration of where lines are drawn between education, information, and advice and who's providing it.

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[62] William G. Gale, J. Mark Iwry, and David C. John, editors, *Wealth After Work* (Washington, DC: Brookings Institution Press, 2021), pp. 82–115.

# VII. Maintaining the Same Standard of Living Pre-and Post-Retirement: The Potential of SeLFIES[63]

***Key Takeaways:***

- A new, risk-free asset, Standard-of-Living–indexed, Forward-starting Income-only Securities (SeLFIES), could provide a reliable retirement income.
- SeLFIES would be a bond hedged to aggregate per capita consumption and would not be paid out until a future date, ideally when the bondholder retires.
- These bonds would have a simple pricing mechanism comparable to a U.S. Treasury bond that would be intuitive to buyers and private institutions.
- Governments would be the natural issuer of these bonds because they can minimize the risk associated with them and already have the mechanisms in place to issue them.
- SeLFIES are designed to be of value to both individual and institutional investors.
- Like a pension, payouts are deferred until a specified future start date, i.e., the anticipated retirement date.

Retirement income solutions are evaluated based on how well they address different types of risks, such as longevity, inflation, market, and decision, along with the need for liquidity. While much of the discussion has focused on guaranteed (e.g., different types of annuities), and non-guaranteed (e.g., managed payout accounts, etc.) options, there are some new, innovative approaches for generating and protecting lifetime income with the potential to transform how we think about the future.  One such innovation are the Standard-of-Living-indexed, Forward-starting Income-only Securities (SeLFIES) developed by Dr. Robert Merton and Dr. Arun Muralhidar.[64]

## A. What are SeLFIES?

SeLFIES are innovative government bonds. In the U.S. context, SeLFIES would have the full faith and credit of the U.S. Department of Treasury. These bonds would not start paying out immediately, much in the same way a pension does not start paying participants as soon as they enroll in their plan. Instead, SeLFIES would start their "payout period," when they reach a future date: the date the bondholder expects to retire. These payouts would continue after the initial date for a certain period of time. Like a pension, there is no principal or balloon payment at the maturity date. The payout would be indexed to aggregate per capita consumption so the holder is hedged against both consumption inflation and standard-of-living risk changes until payouts begin, and then it is indexed to consumption inflation only.

SeLFIES would be issued in series, much in the same way TDFs have different starting annual dates. For example, there could be a SeLFIE for 2030 or for 2040, but either option would have the same payout period length (typically 20 to 25 years). They would be sold at auction and traded in a secondary market in standard sizes, similar to the way that Treasury bonds are traded with other government bonds. Those markets would be a way to reveal the real market

[63] This section is derived from a Forum presentation by Dr. Robert Merton, School of Management Distinguished Professor of Finance at MIT Sloan School of Management, and the John and Natty McArthur University Professor Emeritus at Harvard University. Dr. Merton received the Alfred Nobel Memorial Prize in Economic Sciences in 1997.

[64] R.C. Merton and A. Muralidhar, "A Six-Component Integrated Approach to Addressing the Retirement Funding Challenge," *Journal of Investment Management*, Vol. 18, No.4 (December 2020), and "SeLFIES: A New Pension Bond and Currency for Retirement," *Journal of Financial Transformation* 51 (May–June 2020), pp. 1–12.

price of SeLFIES. These products would be available to individuals who do not have financial advisors. To ensure this, SeLFIES will be offered and redeemed in small denominations.

## B. How Would SeLFIES Work to Generate Retirement Income?

SeLFIES were designed to help people have a good retirement, but not many people know what a good retirement looks like. To remedy that issue, the innovators of this product assume that a good retirement would be one where people can continue to enjoy the standard of living that they had later in their careers. For this reason, SeLFIES are trying to meet a standard of living criterion.

**A hypothetical 28-year-old who plans to retire at age 65 and wants $50,000 in retirement income would buy SeLFIES that have payout dates starting in 2059. Each unit has a payout of $10 a year and the payout period is for 20 years. To determine what she needs, all she has to do is divide $50,000 by $10 to realize that she needs to acquire 5,000 units of SeLFIES.**

SeLFIES were also intended to meet the current needs of individuals, many of whom use DC retirement plans. This solution could provide individuals who have no pensions or have inadequate pensions with a DB-type benefit to supplement their DC plans. In addition, it can offer a DB-like option for those who may not have any access to a guaranteed retirement benefit, such as Social Security.

How do SeLFIES work? Imagine a hypothetical 28-year-old woman who plans to retire at age 65. This individual has a goal of $50,000 in retirement income, and she currently lives on a $50,000 annual income. Given the desire to retire at 65, she would only look at SeLFIES that have payout dates starting in 2059. Each unit has a payout of $10 a year and the payout period is for 20 years. To determine what she wants her standard of living to be in retirement, all she has to do is divide $50,000 by $10 to realize that she needs to acquire 5,000 units of SeLFIES.

One of the benefits of implementing SeLFIES would be that consumers can understand this product easily. SeLFIES allow people to figure out how much money they will have in retirement by doing simple multiplication. If this hypothetical individual only has 3,000 units, then she knows that she will have $30,000 in retirement and would need to supplement the rest of her income goal.

This method of calculating retirement income is not only more intuitive than other solutions, but also less complicated in that people do not have to account for different interest rates, inflation rates, or other financial terms. There is an immediate understanding of how SeLFIES' pricing and payout mechanisms work. In comparison to other bond products, like a Treasury Inflation-Protected Security (TIPS), SeLFIES have a limited upkeep and payout component. TIPS have to be reinvested time and time again until they mature, at which point, the bondholder gets a lump sum payment. SeLFIES do not have to be reinvested and the payout is annual.

While SeLFIES may be considered a good retirement solution, there are concerns that this product could rival or replace DC investments. SeLFIES are not intended to do this. Rather, they are meant to be a risk-free asset for retirement, not a substitute for risky assets. In other words, these risk-free bonds are meant to complement the risky assets in DC plans, so retirees can have the benefit levels that a risk-free investment cannot do on its own. SeLFIES are also robust products that can be introduced in any country that has an organized bond market, even if that country does not have a stock market. A plan sponsor could theoretically integrate SeLFIES into their plan as a risk-free asset.

SeLFIES are designed to be of value to both individual and institutional investors. Individuals who either have no retirement plans at all — DB or DC — or insufficient retirement savings could accumulate additional assets that could easily be converted to retirement income. In addition, institutional investors such as pension funds or insurance companies who have pension and annuity benefit liabilities and want to hedge them at low costs or want a more diversified portfolio, may find them attractive.

## C. SeLFIES Do Not Offer Longevity Protection

SeLFIES are bonds with a pre-specified number of payments (aka fixed maturity), and so cannot directly provide "contingent" protection against longevity risk of "outliving" your assets with guaranteed lifetime income, as pensions and life annuities do. For this reason, SeLFIES do not provide longevity protection, and there is a potential that a 20- or 25-year payout period may not be enough. To hedge this risk, the payout period of SeLFIES has to equal the expected life expectancy. To accomplish this, an individual could sell the SeLFIES to an insurance company and swap for an equivalent annuity at a one-to-one rate, e.g., $50,000 worth of SeLFIES would be swapped for a $50,000 annuity.

## D. SeLFIES Designed as a Government Bond Offer Additional Benefits

The government would be the issuer of these bonds because SeLFIES need the full faith and credit of the United States behind them. Bondholders need to believe that the payouts will occur. Much like Treasury bonds, SeLFIES will not be required to have pages upon pages of risk assessments. On another note, these bonds do not start their payout for an extended period, e.g., 10, 20, 30, or even 40 years after the bond has been purchased. A financing scheme like this would be a boon for countries developing infrastructure projects. Not only would countries view this as a great mechanism to finance future projects but they would also see it as a way to secure domestic funding, which is different from foreign-owned debt. There is potential that a private corporation could issue its own SeLFIES bond, but those firms would have a variety of legal liabilities to consider that governments do not. In other words, the government is a natural issuer for these types of bonds.

## E. What Is Needed for the Adoption of SeLFIES?

SeLFIES as a feasible concept is a good start, but to convince governments to embrace this solution requires communication. This means showing all the necessary players how they can gain from this innovation. Using arguments based on debt stability and transparency can be convincing for developing countries with significant infrastructure deficits, like those in Latin America. Another aspect is presenting SeLFIES (or any retirement innovation) in a way that people without knowledge on this subject can understand.

# VIII. Collective Defined Contribution Plans (CDCs) and Tontines: What Costs and Risks Do They Address that Traditional Annuities Cannot?

***Key Takeaways:***

- Risk-sharing pool products, like tontines and collective defined contribution CDC plans, are important income generating mechanisms for people in retirement.
- Although they are not guaranteed income solutions, tontines and CDC plans can have certain advantages over DB plans and annuities, as well as over DC plans.
- CDCs and tontines address key risks, including market and longevity risks.
- CDC plans and tontines have been implemented in countries like the Netherlands, the U.K., and Canada which offers lessons for the U.S.

A tontine is a longevity-protected income solution where a group of individuals contributes to the same fund. Once individuals are in retirement, the assets in the tontine begin to pay out a portion of the pot to the beneficiaries, but as more people die, the payouts adjust depending on the number of beneficiaries remaining in the pool. Tontines can be an incredibly useful tool for helping people secure retirement funding, and their structure and design has significantly evolved over time.

In an era when even a significant amount of financial literacy does not guarantee optimizing DC plan benefits, the pooling aspect of tontines can offer individuals more security. In fact, pooling pensions in the form of a CDC plan, which is another retirement option that combines contributions together into a single fund to then create an income stream for beneficiaries, can generate a retirement income that is 30 percent or higher than an individualized DC plan.[65]

**Although the pooling aspect of both tontines and CDC plans can provide retirees a way to increase their income, these solutions are different from traditional annuities in that they do not offer a guaranteed payout. Instead, they provide people with a predictable income stream.**

Although the pooling aspect of both tontines and CDC plans can provide retirees a way to increase their income, these solutions are different from traditional annuities in that they do not offer a guaranteed payout but do offer a form of protected income. Modern tontines even have a structured payout schedule that includes "mortality credits" or "survivor credits," which are both terms used to describe the increase in payouts that the remaining individuals receive upon the death of a contributor. Overall, tontines and CDC plans offer retirees a unique way of preparing for retirement by pooling contributions and standardizing risks.

## A. Tontines and CDCs Compared to Annuities

Tontines have come a long way from their original structure and design. In many ways, modern tontines do not have to involve a closed group of individuals; instead, they can be an open-ended pool, where new members can be accepted in perpetuity. These tontines can be offered as packaged investment products or as separate accounts, where each participant can change their allocations over time. The potential to change allocations over time is reminiscent of the way current DC plans are offered. People in DC plans can choose different TDFs to invest in and can change their contributions at any time. Unlike DC plans, these tontine payouts depend not only on the investment performance of the contributions but also the mortality experience of the membership pool.

[65] Antonelli, Charles E.F. Millard, and David Pitt-Watson, "Securing a Reliable Income in Retirement" (Washington, DC: Georgetown University Center for Retirement Initiatives, April 2021).

In comparison to annuities, tontines are also not associated with certain legal liabilities. In many ways, the value of tontines comes from their survivor credits, which give people higher payouts, and their ability to have a higher expected payout growth trajectory through their investment portfolios. This is different from an annuity that has a fixed payout and a fixed term.

Although tontines and CDC plans both offer risk pooling without guarantees, CDC plans have more complexities than tontines. In terms of fairness, tontines can be more actuarially fair to all investors, while CDC plans have an intergenerational bias that may favor the older over the younger contributors. This difference stems from the fact that tontines are more interested in how efficiently they can decumulate assets than CDC plans. Both tontines and CDC plans have the same advantage over DC plans in that they do not use a lump sum payout option and use an annual income stream instead.

Tontines and CDC plans shift funding and volatility risks from the employer to the group of participants. Tontines handle longevity risks through the survivor credits that increase over time, while CDC plans address those through a non-guaranteed lifetime income that is professionally managed. In terms of market risks, CDC plans do not protect participants from investment risks in the same way that DB plans do but can still protect individual participants from individual risk by investing collectively.

Another type of risk that is different depending on the retirement solution is the sequence of returns risk, which describes the phenomenon when investment losses early on in retirement can have a negative impact on the amount of gains available for the retiree later on. Annuity and DB plan sponsors usually bear the sequence of return risks. CDC plans can mitigate this risk for individuals, but cannot reduce it for the whole group, while tontines can minimize the sequence of return risks by incorporating new benefits into the fund or increasing benefits to survivors. Lastly, inflation risk is something that all products have to consider. DB or fixed income plans do not have much protection from inflation risks, except for Social Security.

## B. CDC Plans in the Netherlands and the United Kingdom

**In the U.K, the Dutch-style CDC model was appealing not only because of its design, but also because that model showed it could be possible to build political consensus around such a plan design while building a stronger relationship between employers and employees.**

CDC plans have been implemented in Europe in places like the Netherlands and the U.K. The Netherlands was the first country to experiment with CDC plans and laid the framework for how the U.K. would approach this system. The U.K. added the Dutch model to their retirement services ecosystem because the British were dissatisfied with the outcomes of the individualized DC system and liked the benefits of risk-sharing in collective platforms. The Dutch-style CDC model was appealing in the U.K. not only because of its design, but also because that model showed it could be possible to build political consensus around such a plan design while building a stronger relationship between employers and employees. The Royal Mail, a British multinational postal service and courier company, will be the first in the U.K. to implement a CDC plan.[66]

## C. CDC Plans in Canada

In Canada, the government provides a maximum $20,000 retirement income benefit as a lifetime, inflation-indexed pension. Aside from that $20,000 per year, retirees must supplement their income with other savings. Individuals draw from separate sources of income in retirement, determined by whether they worked in the public or private sector. About 90 percent of public sector workers are in a DB pension plan, while 20 percent of workers in the private sector have a pension plan, which is usually a DC plan. Most private sector employees in Canada do not have access to affordable options for retirement savings. Canada's

[66] Antonelli, Millard, and Pitt-Watson, Ibid.

baby boomer generation represents more than one-quarter of the country's population.[67] The recent COVID-19 pandemic has also shown what can happen to older people who do not have the proper financial support.

For those Canadians in a DB plan, most are not in a traditional DB plan. Those DB plans tend to have conditional elements, such as a conditional indexation, and are usually considered more of a CDC plan. In bigger CDC plans, the employees and employers work together to make decisions and share risk. Canada has more than 100 CDC plans, and they constitute an entire CDC spectrum. On one end of the spectrum is a solution like the traditional DB plan and on the other end of the spectrum is an individual DC plan. Plans that are closer to the DB end of the spectrum tend to have cost-of-living adjustments that are conditional, but still have guaranteed benefits. Moving away from that end of the spectrum toward the middle, Canada has CDC plans where accrued benefits can be reduced — but only in extreme scenarios. For this reason, shared risk plans in the Canadian province of New Brunswick have a less than 5 percent chance of reducing their accrued benefits over a 20-year horizon. Closer to the DC side of the spectrum, there are multi-employer plans that can reduce accrued benefits as well. However, unlike the plans in New Brunswick, these plans do not have robust risk management practices, so they have a higher likelihood of reducing accrued benefits closer to 15 or 20 percent.

Allowing these CDC plans the ability to reduce accrued benefits as needed is essential to maintaining the solvency of the funds, but the act of reducing these benefits can lead to public disapproval. After the 2008 financial crisis, many plans in the Netherlands had to reduce their benefits. Even though the reductions were small, the general reaction was extremely negative. In contrast to the Dutch, Canadians do not have the same visceral reaction to benefits reduction. One reason is that these plans do a good job of communicating to their beneficiaries that benefits are not always guaranteed. The other reason is that each individual board of trustees in charge of their respective fund decides whether they want to protect the accrued benefits or focus on intergenerational equity, and the latter option usually entails adjusting the benefits frequently.

**For CDC plans the ability to reduce accrued benefits as needed is essential to maintaining the solvency of these funds, but the act of reducing these benefits can lead to public disapproval. Unlike the Dutch, Canadians have done always done a good job, from the beginning, of communicating that benefits were not always guaranteed.**

## D. Tontines in Canada

In recent years, advocacy groups have lobbied the Canadian federal government to change tax and pension laws to allow retirees to pool their money together. However, the pooling proposal has not done enough yet for retirees because it has restricted the options for people already in a DC pension plan. Most importantly, about 90 percent of individual retirement savings are in savings accounts outside of the DC plans. The design of this pooled pension proposal must meet certain key features, which include being widely accessible and available. These solutions also must protect members in retirement, making sure that these solutions do not collapse when a beneficiary is in their 80s.

In a recent policy paper titled "Affordable Lifetime Pension Income for a Better Tomorrow: How We Can Address the $1.5 Trillion Decumulation Disconnect in the Canadian Retirement Income System with Dynamic Pension Pools,"[68] published by Canada's National Institute on Ageing, Ryerson University, and the Global Risk Institute, the authors

[67] Statistics Canada/Statistique Canada, "Generations in Canada." (Ottawa, ONT Canada: Canada's national statistical agency, Organisme statistique national du Canada, July 23, 2018).
[68] Bonnie-Jeanne MacDonald, Barbara Sanders, Laura Strachan, and Mitch Frazer, "Affordable Lifetime Pension Income for a Better Tomorrow: How we can address the $1.5 trillion decumulation disconnect in the Canadian retirement income system with Dynamic Pension pools." (Toronto, ONT, Canada: National Institute on Ageing, Ryerson University, Global Risk Institute, November 16, 2021).

> **Canada is introducing its version of a tontine called a "dynamic pensions pool" that is open to new participants and would be for the sole purpose of decumulation. Pensions are adjusted dynamically in line with the investment risk and the mortality experience of the group. Everyone's pension in the pool would be adjusted by the same percentage after someone dies. There would even be an option for a dynamic pension pool that would be open to all retirees, regardless of employer.**

outline how these pooled plans would have the same design features as modern tontines, except in Canada, they are not called tontines; they are called "variable payout life annuity" plans or "dynamic pensions." These pensions are provided through a dynamic pension pool that is open to new participants and would be for the sole purpose of decumulation. Pensions are adjusted dynamically in line with the investment risk and the mortality experience of the group. Everyone's pension in the pool would be adjusted by the same percentage after someone dies. There would even be an option for a dynamic pension pool that would be open to all retirees, regardless of employer.

## E. Tontines in Chile

Outside of the European and North American context, there has also been some interest in Chile to use a tontine product to secure more retirement funding. A recent paper titled "A Sustainable, Variable Lifetime Retirement Income Solution for the Chilean Pension System" evaluated ways to combine retirement solutions for the Chilean pension system.[69] Chile has seen a decrease in its annuitization rates and the government has been trying to reform the system to create a more efficient vehicle for accumulating assets. This problem is only compounded by the fact that the only alternative to an annuity is a program withdrawal plan. While people who choose to withdraw from their annuities can receive a higher income earlier on in retirement, this makes retirement income unsustainable for the long-term.

To ensure that the elderly have a sustainable retirement income, a tontine option may be the solution that most Chileans would need. Much in the same way that people are presented with five investment choices for TDFs, people would be presented with five types of tontines. Participation in these tontines would be irrevocable, but the increase in income from survivor credits would motivate people to join them. Tontines can also boost income levels dramatically, even when people make only small contributions. The researchers expect that in comparison to annuities, tontines could deliver a higher income at the median because of their lower cost. However, there is no guarantee that the tontine income could keep up with an annuity income. This decision between a tontine or an annuity would depend on whether a beneficiary values a higher income potential or a guaranteed income.

The study also compared tontines to longevity insurance, but Chilean insurance companies do not generally offer longevity insurance because the costs are too high. Tontines do not have this cost problem because they do not have a guaranteed income. For this reason, insurance companies could offer tontines in lieu of longevity insurance and other products. The researchers also conceived of a national longevity risk pool as a way to lower the cost of retirement products, increase economies of scale, and diversify risk.

## F. Is there a Future for CDCs or Tontines in the U.S.?

By harnessing the power of pooling, both CDCs and tontines demonstrate the ability to deliver more in retirement income at lower costs than commercial annuities. However, as previously discussed, the current DC-plan–centric U.S. retirement system is dominated by IRA and 401(k) products. The challenges of moving the industry away from what is so familiar and in which so many are heavily invested would be no small undertaking. Nevertheless, the experience of other countries might spur innovation and lead to embedding some of the pooling structures as part of the customized solutions adopted. We already see experts developing options for other countries, such as Chile, that model the possibilities.

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[69] Olga Fuentes, Richard K. Fullmer, and Manuel Enrique Garcia Huitron, "A Sustainable, Variable Lifetime Retirement Income Solution for the Chilean Pension System" (SSRN, Elsevier, March 28, 2022).

# IX. The International Approaches to Retirement Income: What are Key Trends and Lessons for the U.S. Retirement System?

***Key Takeaways:***

- To measure the impact of retirement throughout the world, the Mercer|CFA Institute Global Pension Index provides a standardized way of assessing the viability of each country's pension system, while using the World Bank's pillars for retirement as a framework.
- Developed countries in Europe, North America, and East Asia face challenges related to an older population and reframing the value of lifetime income.
- Developing countries in Latin America and Africa have a younger population on average, a large informal labor market, and often lack a developed insurance market.
- Most countries struggle with finding the balance among maximizing their retirement income, managing risks to income, and having some flexible access to savings.
- Although the retirement industry can continue to create innovative solutions, success will ultimately be determined by the ability to explain how any system will meet the individual needs and preferences while building the public's trust in the institutions governing any system.

Throughout the world, higher life expectancies have not only put more strain on many pension systems but have also magnified the tension between life expectancy versus a *healthy* life expectancy. These demographic trends have put retirement institutions in the spotlight because these nations will need to consider system reforms to provide their citizens with the resources to live healthier lives in old age.

## A. Current Metrics for Evaluating Global Pensions

To evaluate how different pension systems throughout the world are prepared to provide people with adequate pensions, the Mercer|CFA Institute Global Pension Index[70] releases a ranking every year to measure these pension systems. It benchmarks 43 retirement income systems around the world, highlighting strengths and weaknesses. It uses three sub-indices — adequacy, sustainability, and integrity — to evaluate retirement income systems using a letter score with a range from "A" to "D." An A score signifies that a country has a very good pension system, while a D score means that there are serious pension flaws that have to be addressed. Some experts criticize the ways in which Mercer values certain inputs over outcomes, but ultimately, this index is a good starting point for policymakers when discussing the strengths of various pensions. The index analyzed 43 countries in 2021 and provided a snapshot of challenges each region in the world faces. Out of the 43 countries, however, only three — Denmark, Iceland, and the Netherlands — received a score of A.

An additional tool that is helpful in framing discussions about retirement is the World Bank's 1994 conception of three retirement pillars.[71] Pillar one is a publicly managed universal pension; pillar two is a privately managed, collective arrangement with the worker's employer; and pillar three is the individual retirement savings account.[72] The Mercer Index analyzes these three pillars. Some have more weight than others: Pillars one and two have more importance

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[70] Mercer|CFA Institute Global Pension Index 2021.

[71] The World Bank's Pension Framework concept has since evolved to a five-pillar framework with a "0" non-contributory pillar that addresses measures specifically focused on alleviating poverty and a fifth pillar focused on informal support and social programs, such as health-care and housing. See The World Bank Pension Conceptual Framework at https://documents1.worldbank.org/curated/en/389011468314712045/pdf/457280BRI0Box31Concept1Sept20081pdf.pdf

[72] Andrew Podger, David Stanton, and Peter Whiteford, "Designing Social Security Systems: Learning from Australia and Other Countries," *Public Administration and Development* 34, no. 4 (October 2014), pp. 231–250.

than pillar three. To get more countries from D to A requires a focus on improving pillars one and two. The main issue for pillar one is the sustainability of these plans, especially in the face of changing demographics. The question for pillar two is how to create collective pooled arrangements that increase income replacement rates. This may include increasing the savings rate to 8 or 10 percent. For pillar three, the main problem is addressing the decumulation of personal savings.

The discussion of pillar two reforms may be improved by defining options more clearly; namely, whether it is a one-pot or two-pot system. In a one-pot pension system, everything occurs in one pool; i.e., both accumulation and decumulation. A two-pot system has two separate pools, where one pool is designated as the "accumulation pool" and the other is the "decumulation pool." This distinction can create more nuance when discussing the various types of arrangements around the world.

**An important consideration for evaluating a country's retirement system is the effectiveness of the institutions that govern or oversee the system.**

Apart from the Mercer Index and the World Bank, an important consideration for evaluating a country's retirement system is the effectiveness of the institutions that govern or oversee the system. Effective governance requires three components. First, there has to be a focus on obtaining best outcomes for participants guided by "profit for members" and not a "profit for shareholders." Second, the scale of the operation has to be sufficient to achieve efficiency. Third, the organization needs good governance structures. By considering the index, the pillars, and the effectiveness of institutions, we can begin to analyze the various pensions throughout the world.

## B. Retirement Systems in the U.K. and Canada

For more than a decade, the U.K. has required all employers to automatically enroll eligible workers into a qualifying plan, and the mandate has worked well to expand coverage and boost savings. Along with private providers, the U.K. National Employment Savings Trust (NEST) is a quasi-public organization designed to help cover private sector workers. Although savers still have to make their own decisions whether to take a lump sum payment or buy an annuity or a non-guaranteed option, NEST is developing ways to provide a reliable delivery system, including offering a built-in fund or one-pot design. At the same time, the U.K. recently adopted legislation to allow for the formation of CDC arrangements, as previously noted.

Canadian regulators are approving pooling arrangement to increase coverage in the private sector. They have "target benefit" plans can be designed as a one-pot system, and they can be sustainable over time by making adjustments as needed. Most recently, Ontario colleges have opened plans to other employers, not unlike the concept of PEPs in the United States. Now other employers are looking to join these college plans, so they can use the architecture and the logistical setup of such plans to secure more-reliable pensions for their employees.

## C. Retirement Systems in Australia and Asia

For some time, Australia did not have a traditional pension or lifetime income-focused system, but an accumulation-focused system. As previously discussed, Australians are now considering new decumulation options.

In Southeast and East Asia, there already are several one-pot or two-pot systems. In Singapore, an individual must have 70 percent of their retirement savings in their account, while the other 30 percent can be drawn down for specific purposes. Although this system has worked, Singapore still runs into problems with people having insufficient funds for retirement. In fact, more than half of Singaporeans are projected to run out of money in the last 14 years of their lives. To combat old age poverty, the government has developed support programs to address the concerns of the elderly who lack sustainable retirement funds. These programs are more robust than many American programs and, as a result, Singaporeans in a bad financial position for their retirement are better off than some Americans in the same position.

China is having to deal with the question of annuities. The Chinese have developed an annuity solution for the country's 40 million public servants, which works because it is mandatory. However, there are not individual annuities in China. According to AnnuityDigest.com, Chinese workers do have access to enterprise annuities, which are a "form of supplemental retirement savings program that is voluntary. Chinese companies can set up retirement benefit plans for individuals. While the design of each program is flexible, there are some restrictions such as maximums on employer and employee contributions. Enterprise annuity payouts can be structured as a lump-sum or a series of payments like an annuity. The adoption of enterprise annuities in China has been affected by a lack of tax breaks, a low level of awareness, and high qualification hurdles for employers or plan sponsors."[73]

In many ways, the solutions these Asian countries are offering to their citizens are all attempts to prevent what has happened to some countries such as Japan. Japanese individuals who are 50 to 65 years old and have never been married or divorced have a 50 percent chance of ending up in old age poverty. Another statistic noted is that 50 percent of Japanese inmates over the age of 60 are in prison for petty crimes. Many of these people want to commit petty crimes so they have a roof over their heads and three meals a day. Although the Japanese system has left many elderly people without proper retirement income, 70 percent of all wealth in Japan is still owned by people who are 65 years and older. Unfortunately, financial institutions are not promoting or targeting products to these people. In other words, the Japanese case offers a view of what can happen to elderly people when neither the market nor the government does enough for securing their retirement.

## D. Retirement Systems in Latin America

Latin America is a heterogeneous region, but in general, there are two types of countries when it comes to retirement systems. One group has implemented the neoliberal market reforms of Chile, which is mainly a DC-style system. Meanwhile, the other countries have a DB-style system. The DC group of countries reports lower levels of pensions and coverage, while the DB countries have a very generous level of pensions and thus face large financial sustainability contingencies because the region will age more rapidly than any other region in the world in the coming decades. DB countries like Brazil and Argentina have achieved high levels of coverage, but are running into sustainability problems with more people living longer.

Few countries in this region have a B score from the Mercer Index, but in many ways, these countries are right where they are supposed to be in terms of developing their pension systems. Pensions are becoming a contentious political issue for more people in Latin America. People in Chile and Uruguay have demonstrated in the streets, asking for pension reform, while people in Argentina are asking the government not to make any changes to their pensions, because such moves relate to changing the parameters for contributions or retirement age.

There is a worrisome trend in Latin America that pensions are disappearing from certain countries, and this will most likely have negative repercussions. Since 2016, Peruvians have been allowed to take 95.5 percent of their retirement savings as a lump sum. As a result, 97 percent of Peruvians have taken the lump sum option, ending the prevalence of a dynamic annuity market. Chile and Peru have recently approved several rounds of early retirement withdrawals to help people deal with the effects of the COVID-19 pandemic and lockdowns. According to the International Monetary Fund (IMF), more than half of participants in Chile have already depleted their accounts, contributing to a fiscal problem.

Many labor participants in Latin America make low and infrequent contributions to their accounts. The average person in Latin America will only contribute the equivalent of 16 years out of an estimated 40 years of total working experience. These numbers are so low because many people move in and out of the formal labor market into the informal one.

There is a lot of exposure to interest rate and longevity risk for pensions in Latin America. In response to a lack of annuity products in the region, there is a potential for innovative products to deal with these risks. There is a possibility of people delinking their pension benefits from their labor market status to a more universal pension system. There is also a prospect of switching contributions based on income to one based on consumption. Overall, there is considerable effort to deal with the problems that Latin Americans are facing with their retirement.

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[73] AnnuityDigest.com.

## E. Retirement Systems in Africa

Usually, there is not much discussion about retirement systems in Africa because the continent is relatively young in terms of demographics. Countries on the continent have very low pension coverage because so many employees are not in the formal labor market. More than 50 percent of Africa's GDP comes from the informal sector and the likelihood of someone engaging with the informal sector is more than 80 percent. However, countries like Rwanda are providing a path for securing retirement income even in the face of a widespread informal sector, in which there is a lack of an established employer-employee arrangement, irregular and relatively low earnings, the need for access to savings before retirement, and the need for an easy way to make contributions.

A recent working paper titled "Extending Pension Coverage to the Informal Sector in Rwanda — Rwf 23.2 Billion Saved into Informal Sector Pension Scheme"[74] describes how governments such as Rwanda are examining initiatives and extending pension coverage to the informal sector. Government must intervene in this sector because people do not trust financial institutions and these institutions do not have the governance structures to execute these plans effectively. Countries like Uganda, Ghana, Kenya, and others have experimented with different schemes or initiatives, but many of these schemes lacked commercial viability in terms of scale, funding, or even contributions. In addition to these issues, the biggest challenge for these initiatives was the fragmented economic ecosystem. Even with the incorporation of technology and mobile money, there was a high cost in managing these various schemes and administering them.

Rwanda had similar issues as its peers and similar demographics; three out of four Rwandans are 30 years old or younger. In terms of their retirement system, only 10 percent of the population was covered under the Rwanda Social Security Board (RSSB), while the other 90 percent was not covered because of interactions with the informal labor market. To get more people into this system, Rwanda decided not to call it a "pension scheme," but rather a "long-term savings" initiative.

The national government launched a fully funded Long-Term Saving Scheme (LTSS), called *EjoHeza*, in December 2018. It is a DC scheme, established on a voluntary basis by opening a savings account with a scheme administrator: the RSSB. The scheme targets both permanent and temporary employees, and covers both formal and informal sector employees — those working in the formal sector currently typically are not covered well (in many cases, not at all) by the existing mandatory pension scheme. The EjoHeza scheme design considers the distinct characteristics of the informal sector.

As of December 31, 2021, more than 1.42 million members had saved more than RWF 23.2 billion under EjoHeza LTSS. The majority of the membership and overall accumulated balances are from the informal sector, which is very much aligned with the broader policy and scheme objectives. This long-term savings plan required that the government invest in technology. The government used the national ID program, so people could access their long-term savings accounts from anywhere in the country by using their IDs. Officials began to use different fiscal incentives to bring more people into the program, and even based their incentives on the socio-economic status of every household. The Rwandan government started to spread awareness of this program, developed an entire governance framework, and created accountability standards for this program.

[74] Ayandev Saha, "Extending Pension Coverage to the Informal Sector in Rwanda — Rwf 23.2 Billion Saved into Informal Sector Pension Scheme," informal working paper (Kigali, Rwanda: Central Bank of Rwanda, May 25, 2022; data as of December 31, 2021).

## X. Conclusion

People are living longer and having fewer children. This combination of higher life expectancies and smaller replacement ratios has serious ramifications for the future of retirement. In most countries, the public and private sectors have not been well-prepared to build retirement systems that are adequate, sustainable, and well-governed.

The good news is important progress is being made to understand the significant demographic shifts, economic trends, and preferences of individuals as they age. There is a greater understanding that when it comes to aging and financial needs, the determinants of retirement income needs are complex and varied, so — not surprisingly — this means the solutions must also be flexible.

There is no shortage of innovative policy ideas, as well as retirement income products and solutions. Whether they use insurance-based products or collective pooling arrangements, nations understand they must solve for retirement income to protect their future fiscal and economic well-being. In turn, citizens will accept new retirement income arrangements if they can trust that both their public and private sector institutions can effectively govern any retirement system.

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# Appendix

## Call for Papers
## Selected Research Paper Summaries

# Guaranteed Income: A License to Spend

David Blanchett and Michael Finke[1]

Deciding how much to spend each year in retirement from investments is complicated when both the length of retirement and returns on assets are not known. Unknown longevity presents a tradeoff in which a retiree can either spend generously and risk outliving savings, or spend conservatively and live a less-enjoyable retirement. A retiree who prefers not to accept the risk of outliving savings will spend less.

An alternative to spending from investments is to transfer the risk of an unknown lifespan to an institution, such as a pension, the federal government, or an insurance company. A rational, risk-averse retiree who does not transfer longevity risk will spend less each year than if they had purchased a fairly priced income annuity. Economic theory predicts that a retiree with a similar annuitized wealth will spend more than a retiree with an equal amount of non-annuitized savings. The lifestyle that retirees give up by failing to annuitize is referred to by economists as the annuity puzzle.

A risk-averse retired couple can maximize expected well-being in retirement by withdrawing 3.3% from their bond portfolio each year, and a risk-tolerant retiree will maximize expected utility by withdrawing 3.7% from the portfolio. By accepting the idiosyncratic risk of funding annual spending using safe investments, a retiree will moderate spending to avoid the risk of running out of savings. Had the couple annuitized their savings at retirement, the current average annual payout from a single-premium immediate annuity is 4.8%. By transferring longevity risk to an institution, for example, a pension or an insurance company, they could spend between 30% (risk-tolerant) and 45% (risk-averse) more each year.

There may also be behavioral costs from failing to annuitize. Retirees who are behaviorally resistant to spending down savings may better achieve their lifestyle goals by increasing the share of their wealth allocated to annuitized income. Annuities may give retirees a psychological license to spend their savings in retirement.

Prior research suggests that defined contribution retirees have some difficulty coming to grips with the concept of spending down assets. For example, only 34% of 65- to 74-year-old households spent more than their income in 2017 (Ebrahimi, 2019), and this percentage has been declining since 2011. The 2020 EBRI Retirement Confidence survey finds that only one in 20 retirees are spending down their assets strategically, and two in three say they are preserving assets to fund later-life expenses (only 30% want to leave an inheritance). Failing to spend down savings by living only off the income produced by savings may be seen as an extreme response to longevity risk among loss-averse retirees who feel an emotional resistance to seeing their nest eggs shrink (despite saving the nest egg for the purpose of funding a lifestyle).

In this paper, we analyze how the composition of wealth is related to spending in retirement using data from the Health and Retirement Study (HRS). We do this by looking at households with at least USD$100,000 in savings at retirement and comparing how much money the households could be spending in retirement, based on existing guaranteed income sources and assuming financial assets are annuitized, versus how much they are actually spending.

We find strong evidence that households holding more of their wealth in guaranteed income spend significantly more each year than retirees who hold a greater share of their wealth in investments. A household with a generous pension and no savings will spend more than a retiree with enough savings to buy an annuity that provides the same income as the pension. By holding household wealth constant, the analyses show that households are spending more, not because they are wealthier (since financial assets can be converted to guaranteed income through actions such as delayed claiming of Social Security retirement benefits or purchasing an annuity), but rather, it is the form of the wealth they hold that affects spending in retirement.

[1] Blanchett, David, and Michael S. Finke. (June 28, 2021). “Guaranteed Income: A License to Spend.” Available at SSRN: https://ssrn.com/abstract=3875802 or http://dx.doi.org/10.2139/ssrn.3875802.

Marginal estimates suggest that investment assets generate about half of the amount of additional spending as an equal amount of wealth held in guaranteed income. In other words, retirees will spend twice as much each year in retirement if they shift investment assets into guaranteed income wealth. Therefore, every $1 of assets converted to guaranteed income will result in twice the equivalent spending compared to money left invested in a portfolio. The size of the effect suggests that the explanation for under-spending non-annuitized savings is likely to be both a behavioral and a rational response to longevity risk.

# Affordable Lifetime Pension Income for a Better Tomorrow: How We Can Address the $1.5 Trillion Decumulation Disconnect in the Canadian Retirement Income System with Dynamic Pension Pools

Bonnie-Jeanne MacDonald, Barbara Sanders, Laura Strachan, and Mitch Frazer[2]

Over the last several decades, there has been a global decline in traditional workplace defined benefit (DB) pension plans that provide lifetime pension income for workers after retirement. In Canada, workplace DB pension incomes are now out of reach for nine out of 10 private sector employees.

In response, Canadians have been encouraged to save more, particularly in registered retirement savings plans (RRSPs, the Canadian 401(k) equivalent) and defined contribution (DC) pension plans. This push has been met with some success: These individual retirement savings accounts now hold more than CDN$1.5 trillion nationwide. However, what is sorely lacking is support in delivering what Canadians need most in retirement: reliable lifetime income to help replace their employment wages.

As Canadians contemplate how to turn their savings into income, they are trapped between two extreme and inadequate decumulation options: Buy a life annuity from an insurance company or move their accumulated savings into a personal retirement income fund (i.e., Registered Retirement Income Fund (RRIF)), where they must manage the fund's investment and drawdown themselves. Life annuities have traditionally been very unpopular and remain so today. Nearly all Canadians rely on the second option instead, attempting to finance their income needs throughout retirement without running out of money.

Considering that retirement is expected to last several decades, with unpredictable financial markets and changing personal circumstances, turning accumulated lifetime savings into lifetime income is more than just a challenge. It's a tremendously difficult task that threatens the financial and emotional security of a growing portion of the Canadian population.

The lack of an acceptable, readily available option to convert retirement savings into affordable monthly lifetime income is creating a dangerous disconnect in the Canadian retirement income system, and there is widespread concern that this will lead to increasing financial insecurity for a large portion of the elderly population.

Motivated by this concern, a large and varied coalition of pension experts, organizations, and industry stakeholders came together in 2018 to ask the federal government to change tax and pension legislation to allow a third decumulation option; one that enables Canadians to combine their registered savings at retirement and generate pension income less expensively, through **Dynamic Pension (DP) pools.**[3]

## Understanding DP Pools and How They Work

A DP pool is an efficient financial decumulation vehicle with a simple but profound goal: to help people optimize their expected lifetime retirement income while ensuring they never run out of money.

DP pools operate on a risk-sharing principle. While protecting a single individual from outliving their savings is often prohibitively expensive, the same protection becomes affordable when spread across a large group.

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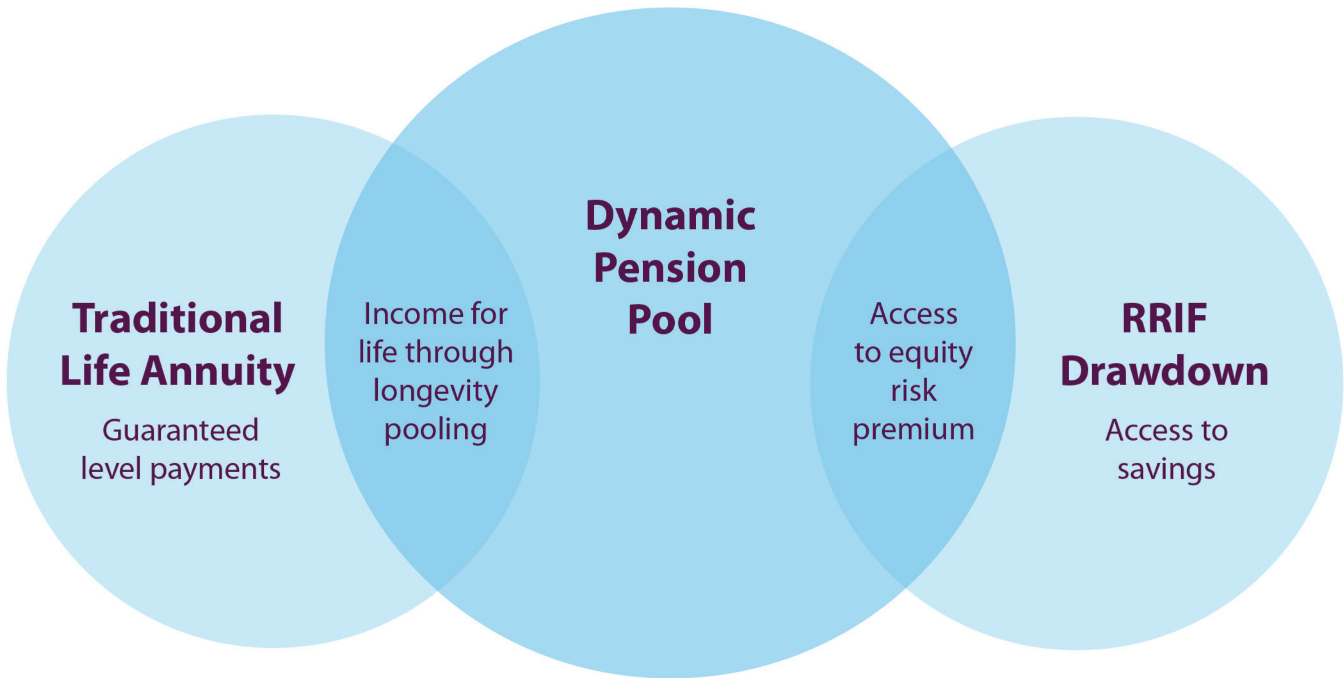
[2] MacDonald, Bonnie-Jeanne, et al. (2021). "Affordable Lifetime Pension Income for a Better Tomorrow: How We Can Address the $1.5-Trillion Decumulation Disconnect in the Canadian Retirement Income System with Dynamic Pension Pools," National Institute of Ageing, Global Risk Institute. https://www.nia-ryerson.ca/reports#dynamicpensions.

[3] *Note: The coalition's letter of 2018 referred to this decumulation option as a Variable Payment Life Annuity (VPLA). For compelling reasons explained later in this paper, we propose and encourage the use of "Dynamic Pension" ("rente dynamique" en français) instead.*

In a DP pool, any funds left over when a member dies remain in the pool, so those who die earlier than average subsidize those who die later. This gives retirees the freedom of not holding onto savings to cover the possibility of living beyond their life expectancy, providing a substantial boost to their lifetime retirement payments.

In a traditional annuity, longevity pooling is bundled with prohibitively expensive investment guarantees; a DP pool offers the former without the latter. This innovative design allows members to take advantage of longevity pooling while also harnessing the equity risk premium — that is, the additional returns expected to be earned in exchange for taking on investment risk.

From the member's perspective, registered savings are voluntarily directed to a DP pool, which provides a lifetime pension income that is adjusted (the "dynamic" feature) each year in response to actual investment returns and the pool's mortality experience.




DP pools give Canadians the opportunity to benefit from a robust governance structure and professional investment management. As part of a large group, DP pool members may also benefit from economies of scale, such as reduced fees for asset management and administration (compared with what is available in the retail market), stronger asset purchasing power and better capacity to diversify investments across asset classes and over time.

From the provider's perspective, DP pools do not impose DB liabilities, nor do they require risk capital, reserves, or deficiency contributions. In other words, there is no direct financial risk for providers in offering them.

## Social and Fiscal Impact of DP Pools

DP pools can help improve social welfare. By providing an inexpensive longevity pooling solution, they can reduce income insecurity and psychological stress, increasing retirees' confidence about spending and enjoying their hard-earned income.

In addition, DP pools should also help support the financial sustainability of federal and provincial senior social support programs. In the short term, transfers to DP pools are expected to accelerate both income and consumer tax revenue.

## Building an Efficient Decumulation Solution for *All* Canadians

In response to the coalition's 2018 request, the federal government recently enacted important amendments to the Income Tax Regulations that allow sponsors of registered DC plans and Pooled Registered Pension Plan (PRPP) providers to set up DP pools and make them available to members of those plans.

This is a step in the right direction. However, DC plan assets are just the tip of the decumulation iceberg, representing just 10% of the CDN$1.5 trillion of registered individual savings nationwide, and covering less than 7% of working Canadians. Together with the PRPP marketplace obstacles, the result is that, in the absence of changes to the regulatory framework, dynamic pensions will likely be out of reach for most Canadians.

To effectively address the decumulation disconnect, affordable lifetime pension income has to be broadly available to all retiring Canadians, from a variety of providers. This report outlines the key features of a universally accessible regulatory framework that can bridge the decumulation gap by promoting successful implementation of DP pools in the entire Canadian retirement income system.

To ensure DP pools reach their maximum potential in the Canadian retirement income system, the regulatory framework needs to support the following six objectives:

1. **Uniform treatment of registered savings**

   DP pools should be able to accept assets from any registered retirement savings vehicle (i.e., registered pension plans (RPPs), deferred profit sharing plans (DPSPs), RRSPs, RRIFs and their locked-in variants).

2. **Universal member eligibility**

   Affordable lifetime pension income must be accessible to all retiring Canadians, regardless of their employment histories.

3. **Effective protection from longevity risk**

   The DP pool must be large enough to provide meaningful longevity risk pooling.

4. **Robust governance**

   DP pool providers must have a fiduciary duty to the members, and the pool must operate transparently with appropriate controls and

5. **A diverse ecosystem of providers that are willing and able to bring DP pools to scale quickly**

   The product must be attractive to, and feasible for, a variety of providers to achieve appropriate scale. The framework should support a range of providers, including not-for-profit entities, to foster competition.

6. **Clear, simple and harmonized regulations**

   Legislation must be clear and unambiguous: the rules must be explicit to facilitate providers' understanding and ease implementation.

With input from a panel of pension thought leaders across Canada, this report provides guidance about how to remove unnecessary obstacles and clear the path for DP pools. It describes four possible vehicles for implementation: the two options included in the current regime (registered DC pension plans and PRPPs), an emerging solution through securities; and a new purpose-built container (a standalone DP pool to be created under pension legislation).

Following is an evaluation of each option based on the objectives outlined above, with critical areas for additional legislative support identified.

| | DP pools within DC plans | DP pools within PRPPs | DP pools via securities | Standalone DP pools |
|---|---|---|---|---|
| 1 Uniform treatment of registered savings | ✓ | ✓ | ✓ | ✓ |
| 2 Universal member eligibility | ⚒ | ⚒ | ✓ | ✓ |
| 3 Effective protection from longevity risk | ⚒ | ✓ | ⚒ | ✓ |
| 4 Robust governance | ✓ | ⚒ | ⚒ | ✓ |
| 5 Providers are willing and able to bring DP pools to scale | ✗ | ⚒ | ✓ | ✓ |
| 6 Clear, simple, harmonized regulations | ✗ | ⚒ | ⚒ | ✓ |

✓ satisfied   ⚒ needs adjustment   ✗ unlikely to be achieved

No matter which implementation vehicle(s) the regulatory framework supports, legislative action is needed to allow DP pools to reach their full potential.

## A Call to Action

The heartbreaking tragedies of the COVID-19 pandemic in Canadian nursing homes have not only illuminated the systemic deficiencies of Canada's long-term care services, but have also given Canadians a glimpse into a future where the public system cannot afford to support the needs of a growing elderly population. This is yet another wake-up call that thoughtful public policy reforms must be put in place now to allow our aging population to become more financially self-reliant by improving the effectiveness of the private resources they will need to fall back on.

The global consensus, built on academic studies and practical examples, is that DP pools are an effective, inclusive, and sustainable solution to the decumulation challenge. With the legislative changes identified in this report, all Canadians could gain access to DP pools — the missing link in our retirement income system today.

# A Sustainable, Variable Lifetime Retirement Income Solution for the Chilean Pension System

Olga M. Fuentes, Richard K. Fullmer, and Manuel Garcia-Huitron[4]

Pension adequacy is a problem in virtually every country of the world, and Chile is no exception. Chile's second-pillar pension system is a defined contribution (DC) system in which workers save into individual accounts at a compulsory rate. At retirement, people may choose to draw income in the form of either 1) a programmed withdrawal in which savings continue to be invested in their individual accounts and withdrawn on a prescribed schedule, 2) a guaranteed life annuity, or 3) a combination of these two options. Despite these features, there is a significant need to improve both the level and stability of retirement incomes.

We propose a new, third option that incorporates risk pooling based on the tontine principle, in which longevity risks are shared among participants rather than transferred to an insurer. Tontines assure lifetime income but do not guarantee an exact income level, and this distinguishes them from annuities.

Our proposal addresses retirement income inadequacy by delivering both higher expected income levels and longevity protection in a sustainable way. It offers flexible design features and is practical in that it can use the same set of portfolios that participants already invest in.

## Challenges

Like many countries, Chile is aging. The old age dependency ratio is forecast to increase three-fold by the end of the century. Pensions are already inadequate, and unless reforms are taken, the ability to provide an adequate retirement will be severely curtailed by further advances in longevity. A secular decline in interest rates has exacerbated the problem — to wit: Factoring in both longevity improvements and lower interest rates, annuity income rates for newly retired Chileans fell by 37% over the two decades from 2000 to 2020.

These issues pose a monumental challenge to pension systems, policymakers, and annuity providers. Such challenges call for innovative solutions, and it is in this context that modern tontines could play a role.

## Risk-sharing Proposal and Analysis

A modern tontine allows individuals to share longevity risks in an actuarially fair and transparent manner. Investors receive income for life; at death, their accounts are apportioned and redistributed to each surviving member of the tontine in the form of a "survivor credit" that grows exponentially the longer the survivors live. Because there is no third-party insurance guarantor, tontines are significantly less expensive to administer than annuities and can pass the cost savings on to participants in the form of higher payouts.

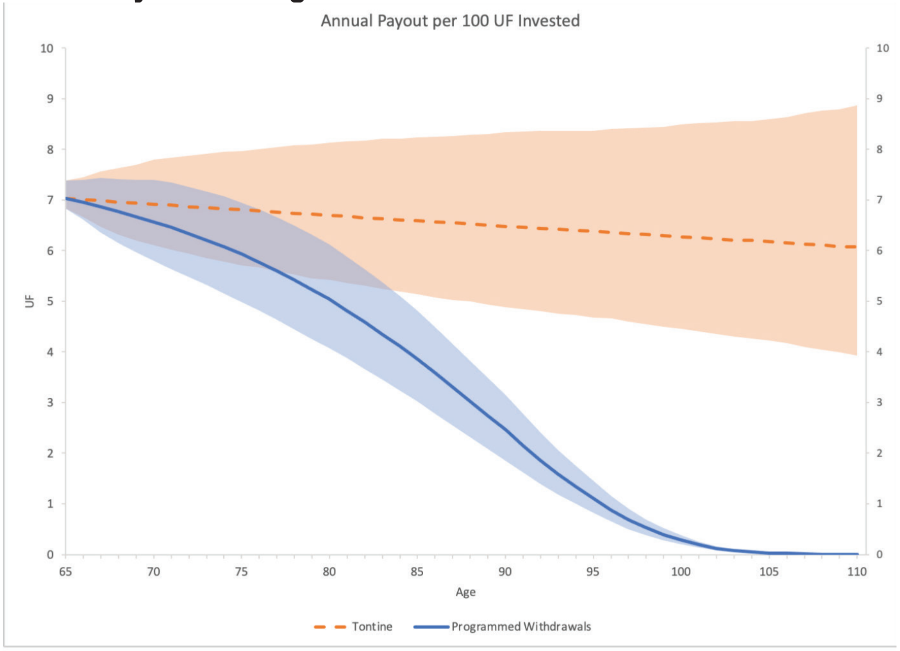
We propose that Chilean pension fund administrators (AFPs) be allowed to offer tontine pensions to participants who have reached retirement age. These pensions could be invested in the same funds that the AFPs already offer. Participants could choose which fund(s) they wish to invest in and could change their investment allocations whenever they wish. They could also elect from several payout options. As for implementation, one alternative is for each AFP to offer its own longevity risk pool. A second alternative is to create a single national risk pool; i.e., every person who elects to purchase a tontine would become part of a single, countrywide longevity risk pool regardless of which AFP they invest through. This could be facilitated through a type of clearinghouse exchange among the national administrator and each of the providers. The benefit of this approach is that it would promote economies of scale and maximize longevity risk diversification.

Using data from the Chilean Pension Regulator, we simulated tontine payouts for the various investment funds that are currently offered in Chile and compared them to the existing options of programmed withdrawals and life annuities. The chart below, for example, compares programmed withdrawal and tontine payouts in real terms, adjusted for

[4] Fuentes, Olga, Richard K. Fullmer, and Manuel Enrique Garcia Huitron. (March 28, 2022). "A Sustainable, Variable Lifetime Retirement Income Solution for the Chilean Pension System," SSRN: Elsevier, http://dx.doi.org/10.2139/ssrn.4045646.

inflation.[5] The lines represent the expected payout, while the shaded areas represent 90% confidence ranges. The chart shows that programmed withdrawal payouts fall substantially in subsequent years and provide little income at advanced ages, while a tontine invested in the same underlying fund provides significantly higher income at advanced ages. The tontine boosts the retiree's income and protects against longevity. The substantial difference in income level is due to the survivor credits offered by the tontine, which increase substantially with age.

**Payout of Programmed Withdrawal versus Tontine**




We also analyzed tontines with deferred payouts (similar to longevity insurance, which is not currently offered in Chile). Finally, we modeled use of the three products (programmed withdrawals, tontines, and annuities) in combination to analyze how this affects payout and legacy bequest levels.

## Conclusion

Our variable lifetime income proposal adds value to the Chilean pension system by introducing longevity protection with higher expected income. The benefits are especially significant compared to programmed withdrawals, which is the alternative taken by more than 85% of new pensioners in Chile.

Our proposal has advantages over other proposals currently under consideration for the Chilean pension system. It:

- provides transparency, investment flexibility, and higher income;
- is easier to implement;
- does not involve higher costs since there are no explicit guarantees;
- does not distort the annuity market — on the contrary, complements it;
- provides a means to offer a form of longevity insurance even if insurers are unwilling to supply it; and
- is in line with the transition of many countries to including longevity-risk sharing in their defined contribution designs.

Our paper discusses several policy and design considerations, and is also applicable to other countries looking to develop more-efficient solutions for post-retirement income.

[5] *Unidad de Fomento (UF)* is a unit of account indexed to inflation, so payouts are displayed in real terms. The chart reflects a male 65-year-old "fund D" investor, in which the initial payout of the tontine is set equal to that of the programmed withdrawal.

# Investing for Retirement Income: A Comparison of Asset Allocation and Spending Strategies

Mathieu Pellerin[6]

Target date funds (TDFs) play a major role in America's retirement system: 58% of 401(k) participants invested in target date funds in 2019, up from 19% in 2006.[7,8] Essentially, a TDF is a low-cost, diversified portfolio that automatically adjusts asset allocation over time based on a participant's desired retirement year, with no need for further participant input. For example, a participant seeking to retire in 30 years may pick a 2050 TDF. The allocation of such a fund today would mostly consist of a diversified portfolio of stocks.[9] As the target retirement date approaches, the fund would reduce its allocation to equities and increase its allocation to short-term, high-quality fixed income. This gradual adjustment aims to reduce the volatility of participants' account balances as they approach retirement.

We show how income-focused investing can improve upon conventional TDFs by providing clearer information about retirement readiness and better managing market, inflation, and interest rate risk. The starting point of income-focused investing is the goal: supporting a steady stream of inflation-adjusted income throughout retirement.

The main risks affecting this goal are market, inflation, and interest rate risks. Most TDFs fail to manage those three risks effectively, in part because they focus only on the reduction of market risk — that is, account balance volatility. The issue is compounded by the fact that TDFs often fail to manage even this one risk effectively. Indeed, after both the Global Financial Crisis and during the initial stages of the COVID-19 pandemic, many TDFs experienced large losses owing to their high-equity exposure even for participants close to retirement.

Target date funds also tend to ignore inflation risk. The majority of bonds they hold are not indexed to inflation. If inflation surges, there are no guarantees that their returns will keep up with the rising cost of living and be sufficient for retired participants to maintain their standards of living. Moreover, most TDFs use short-term bonds to support long-term retirement spending. This mismatch leaves investors vulnerable to lower interest rates: An account balance that is sufficient to support a certain retirement lifestyle when the short-term rate is 2% may no longer be sufficient when the same rate is zero. The incomplete risk management of conventional TDFs prevents them from providing participants with reliable estimates of how much retirement consumption they can expect.

Income-focused investing provides a solution to these challenges. The approach has two core tenets. First, it favors a more moderate allocation to equities during retirement than conventional allocations — think 25% instead of 50%. Second, it uses liability-driven investing (LDI) to protect retirement consumption from inflation and interest rate risk.

To illustrate this approach, consider a portfolio of Treasury Inflation Protected Securities (TIPS) maturing each year over 30 years. At the end of April 2022, a USD$500,000 balance invested in this portfolio could have secured annual, inflation-indexed payments of USD$17,400. The estimate does not require guesswork about future inflation or interest rates: Barring default by the federal government, the (real) payoffs of the portfolio are known in advance.

This investment approach is the focus of our paper, "Investing for Retirement Income: A Comparison of Asset Allocations and Spending Strategies." The paper uses 100,000 simulated lifetimes to compare the performance of a conventional target date asset allocation and an income-focused allocation. Each simulated lifetime follows a hypothetical investor from age 25 to 95, with an assumed retirement age of 65. The investor makes regular contributions to a retirement account from age 25 to 65, then spends the assets from age 65 to 95. Both asset

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[6] Pellerin, Mathieu. (July 6, 2021). "Investing for Retirement Income: A Comparison of Asset Allocations and Spending Strategies," SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3881168.

[7] Morningstar 2022 Target-Date Strategy Landscape.

[8] Guidance from the Department of Labor in 2007 identified target date funds as a qualified default investment alternative in retirement plans, facilitating their rise in popularity – see https://www.gao.gov/assets/gao-11-118-highlights.pdf.

[9] According to the most recent S&P Target Date Scorecard, the average 2050 target fund had more than 90% of its assets invested in equities and REITs. All other statements about the asset allocation of industry TDFs are from the same report.

allocations — conventional and income-focused — start at 100% invested in equities from age 25 to 45. The allocations then evolve as follow:

- The conventional allocation transitions to nominal, short-term fixed income, reaching 50% of invested assets in bonds at age 65.
- The income-focused allocation transitions to an LDI portfolio based on 30 inflation-indexed payments until 75% of assets are invested at age 65. For comparison, the average life expectancy at age 65 is approximately 20 years in the general U.S. population.

Although the paper has a richer set of results, the benefits of the income-focused approach can be seen through two key metrics: income in retirement and the probability of running out of assets during retirement. In what follows, our results assume fixed spending: Investors spend the same amount each year (adjusted for inflation) until they either reach age 95 or run out of assets.

Our core finding is that the income-focused approach delivers a similar retirement standard of living at lower risk. In our baseline results, median retirement income is the same under both asset allocations. However, the conventional allocation has a 30% failure rate over a 30-year period, compared to 20% for the income-focused allocation. Further analysis shows that the difference is not merely driven by the more controlled equity exposure of the income-focused allocation. The allocation to LDI, which provides strong protection against inflation and low interest rates, does the heavy lifting.

The advantages of the income-focused allocation become even stronger when we focus on the 10% of the scenarios with lowest stock market returns, sharpest interest rate decreases, or highest inflation spikes. When inflation and interest rate risk materialize, the failure rate of the conventional approach surges, while the failure rate of the income-focused approach remains unchanged. When sharp market downturns occur, the failure rate of both strategies spikes up, but the income-focused approach still has a lower failure rate and, importantly, helps investors maintain their retirement lifestyles for longer before running out of assets.

What are the takeaways for policymakers and the wider investment community?

First, the premise that high equity risk is always necessary or desirable should be questioned. Our results suggest that many TDFs expose participants to an amount of equity risk that results in little additional retirement income at the cost of substantially heighted risk. The notion that additional equity exposure helps address longevity risk is also flawed. Our simulations assume a 30-year retirement that is 10 years longer than U.S. life expectancy at age 65, yet high equity exposure increases the failure rate.

Second, a narrow-minded focus on account balances can lead to incomplete risk management. As our results show, interest rate and inflation risk pose formidable threats to retirees. Both risks are particularly insidious because unlike equity risk, which often manifests as sudden, dramatic drops, the deleterious effects of high inflation and low interest rates may take time to be felt, because they do not affect the account balance but decrease the standard of living it can support.

Finally, reaping the full benefits of income-focused investing requires income-focused communication. Such a shift requires leadership from asset managers, who must provide investment solutions that manage the relevant risks and offer clarity about future retirement income — otherwise, reliable projections are impossible. Plan sponsors, platforms, and regulators must also move toward participant statements that emphasize projected, inflation-adjusted income. Otherwise, the impact of inflation and interest rate risks will remain invisible to participants, and TDF providers will have little incentives to address those risks. The income disclosure requirements of the SECURE Act, while incomplete, are an encouraging first step, and a signal that the days of fixating on account balances may be numbered.

# Extending Pension Coverage to the Informal Sector in Rwanda — Rwf23.2 Billion[10] Saved into Informal Sector Pension Scheme

Ayandev Saha[11]

Rwanda is a young country with nearly half of its population under the age of 15 years and three in every four Rwandans aged less than 30 years. However, its elderly population (60+) is growing much faster than the general population and is expected to double from 511,738[12] in 2012 to nearly 1.1 million individuals (or around 7% of the projected population) in the next 15 years due reduced fertility rates and improvements in life expectancy.

Approximately 10% of Rwanda's workforce, largely public and private sector salaried employees, are covered by the mandatory, defined benefit (DB) pension program administered by the Rwanda Social Security Board (RSSB). The remaining 90% of the working population are excluded from formal pension and social security arrangements. The majority of them are younger than 35 years old and roughly 80% of them are farmers.

As in most other developing countries, the traditional reliance of the elderly in Rwanda on children and extended families for old-age income support is rapidly being eroded by labor mobility and economic hardship. As a result, and also due to a huge pension and social security coverage gap, a majority of Rwandans are increasingly constrained to rely on their own lifetime savings to sustain themselves in old age. However, with rapid improvements in life expectancy, most citizens will need to accumulate enough savings while they are young to last them for nearly 20 years beyond their working years. This may be a significant challenge, given that most excluded informal sector workers face modest, irregular incomes and may only be able to afford modest pension savings. However, modern finance can play an important role in converting even modest, intermittent savings into a meaningful annuities.

Against this backdrop, and in line with its stated priorities for financial inclusion, poverty alleviation, and comprehensive social security coverage, as well as financial sector development, the Government of Rwanda (GoR) launched a fully funded Long-Term Saving Scheme (LTSS) called *EjoHeza* during the 16th National Dialogue (*Umushyikirano*) in December 2018. This is a defined contribution (DC) scheme, established on a voluntary basis by opening a savings account with a scheme administrator: the RSSB. The scheme targets both permanent and temporary employees, and covers both formal and informal sector employees — those working in the formal sector currently are typically not covered well (in many cases, not at all) by the existing mandatory pension scheme. The EjoHeza scheme is designed to take into account the distinct characteristics of the informal sector, such as lack of an established employer-employee arrangement, irregular and relatively low earnings, need for access to savings before retirement, and ease of paying contributions.

The objective of EjoHeza is to bridge the existing pension coverage gap and ensure that all Rwandans have access to an affordable pension scheme and are able to save and secure a dignified retirement life. The EjoHeza design also seeks to satisfy a number of secondary policy goals that include the following:

- **Reducing fiscal obligations** — Help reduce potential future budgetary pressure on the government by increasing the self-provision of pensions and reducing the fiscal strain on social safety net programs, while not replacing them;
- **Increasing access to and participation in the financial sector** — Introduce unbanked individuals and those unfamiliar with formal investment products to the workings of the capital markets, financial institutions, and financial products;

[10] As of December 31, 2021 (Source: Central Bank of Rwanda).
[11] Saha, Ayandev, "Extending Pension Coverage to the Informal Sector in Rwanda — Rwf23.2 Billion Saved into Informal Sector Pension Scheme," unpublished paper, May 28, 2022. Available at https://cri.georgetown.edu/wp-content/uploads/2022/05/Ayandev_Rwanda_Pension_Scheme_PaperFINALMay-25-2022-for-CRI-site.pdf.
[12] Republic of Rwanda. (January 2014). NISR, Fourth Population and Housing Census 2012, Thematic Report, Socio-Economic Status of Older People.

- **Deepening, and providing a source of stable capital to, the financial markets** — Contribute to economic growth by increasing aggregate long-term savings and thus provide greater depth and liquidity in Rwandan financial markets and stimulate the development of financial institutions.

**EjoHeza is based on national-ID–linked, individual digital accounts.** It is a voluntary DC scheme that allows for flexibility in level and frequency of contributions, and leverages the digital infrastructure that Rwanda has in place. People can save as much as they want at their desired frequency. EjoHeza also harnesses digital technology in registration and contribution collection. Contributors' savings are kept in individual accounts and grow through investments in various avenues undertaken by the RSSB. The GoR provides matching contributions for the poor and vulnerable so they can also participate in the scheme. Those who are eligible for matching contributions are identified through a mechanism established under the safety net system.

EjoHeza works closely with communities and informal sector associations to promote participation and savings. The GoR has used the existing institutional capacity for funds management, payments, nationwide distribution/access, and insurance as a way to achieve system stability, reduce time-to-market for the pension program, lower operational risks, and achieve lower costs for intermediaries in delivering the pension scheme to citizens.

EjoHeza allows for partial access to funds — up to 40% of the savings over RWF4 million. Individuals can access these savings before the retirement age to address short- to medium-term liquidity needs during work life. EjoHeza therefore balances the long-term savings scheme goal with liquidity needs of the informal sector, by requiring a minimum of RWF4 million before withdrawals can be made. This balance is important because the informal sector typically will have liquidity needs in the short term. However, it is important to note that this partial access to savings has to be structured around carefully crafted rules for an efficient administration or else transaction costs of processing withdrawals can be high. The partial access to funds is restricted to financing education and housing expenses, which were found to be among the main challenges of the informal sector in Rwanda.

One of the biggest aims of setting up the scheme was to realize an equitable, secure, stable long-term savings scheme for informal sector workers who are the majority of the workforce (90%) in Rwanda. Considerable progress has been made since the launch of the scheme. As of December 31, 2021, more than 1.42 million members had saved in excess of RWF23.2 billion under EjoHeza LTSS. The majority of the membership and overall accumulated balances are from the informal sector, which is very much aligned with the broader policy and scheme objectives. Some of the key determinants/enablers in achieving significant scale in the first three years of the scheme are:

- **Unique model and non-linear cost structure** — EjoHeza is a centrally administered pension/saving program linked to national IDs and individual digital accounts. Any citizen can use a simple feature phone and a USSD facility to easily open a portable pension account. In short, an individual will be able to voluntarily activate this digital account within a few minutes using a simple mobile phone/computer and without documentation requirements.

- **Awareness and mobilization** — The program took a multi-pronged mobilization approach that included village-level community meetings such as Umuganda,[13] radio programs, and the involvement of local leaders in educating people about the informal sector pension scheme, all of which played an important part in the overall sensitization process.

- **Fiscal incentive package** — This includes co-contribution and insurance and is based on the principle of equity (where a fiscal benefit is equally available to all citizens of Rwanda), as well as transparent and objective targeting and eligibility criteria. In addition to incentives aimed at achieving early, mass-scale voluntary enrollments, it will encourage persistent retirement savings behavior over time.

- **EjoHeza performance** — This is part of *Imhigo* (also known as performance contracts, signed between the president, local governments, and line ministries to achieve community targets). The EjoHeza scheme was included in the government officials' indicators as part of performance management for all government officials, from the national level to the district level; this created ownership and enabled the scheme to receive strong support from senior government officials at the lowest administrative levels.

[13] *Umuganda* is a national holiday in Rwanda taking place from 8:00–11:00 a.m. on the last Saturday of every month for mandatory nationwide community work. Participation in Umuganda is required by law, and failure to participate can result in a fine.

- **Government investment in designing and setting up the Central Administration IT platform** — The platform was designed in-house, which helped to achieve the key policy objectives of the universal pension scheme, i.e., seamless account portability, individual choice, targeted fiscal incentives, optimum benefits, low transaction costs, high governance standards, automated process compliance, etc.

GEORGETOWN UNIVERSITY
McCourt School of Public Policy

CENTER FOR RETIREMENT INITIATIVES

600 New Jersey Avenue NW, 3rd Floor
Washington, DC 20001

202-687-4901

https://cri.georgetown.edu/