

Designing and Communicating Retirement Plans for “Humans”

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[Retirement income planning] is a really hard problem. It's the hardest problem I've ever looked at.

—Bill Sharpe, Nobel laureate, Stanford University

For many people, being asked to solve their own retirement savings problems is like being asked to build their own cars.

—Richard Thaler, University of Chicago

Why did retirement plan sponsors and their advisers collectively decide it would be a good idea to require workers to be their own actuaries and investment managers? That's exactly what happened when they replaced defined benefit (DB) plans with defined contribution (DC) retirement plans. With DC plans, workers must not only decide how much to save for retirement and how to invest these savings, but also how to deploy these savings to generate reliable, lifetime retirement income. In retrospect, there's plenty of evidence that demonstrates this long-term trend has decreased retirement security and confidence among American workers.¹

If Bill Sharpe, a Nobel prize winner in economics, thinks retirement income planning is a really hard problem, what results can we expect from average workers?

Richard Thaler, a prominent behavioral economist, tells us that conventional economic thinking assumes all people are “Econs” who rationally weigh all relevant facts when making financial decisions, are unbiased and consistent, and are cold-blooded optimizers who calculate like computers and don't have self-control problems. But Thaler points out that most people are actually “Humans” who are limited in their ability to gather and analyze relevant facts, have biases and passions, and often make irrational, inconsistent decisions.

So why is it that most DC retirement plans are designed for Econs, not Humans? In an age of increased longevity, the consequences of making retirement income planning mistakes can be serious or even devastating. People might retire too soon before accumulating sufficient savings, or they may not know how to deploy these savings to generate reliable income for potentially lengthy retirements. Either way, there's a significant possibility that many retirees will live some of their remaining years with inadequate retirement income or even in poverty.

The Opportunity

To better meet the needs of older workers approaching their retirement years, plan sponsors, their advisers and financial institutions need to evolve the design and communication of DC retirement plans. Fortunately, the intersection of two recent developments gives them an opportunity to improve DC plans to work effectively for the many Humans—and the few Econs—who participate in their retirement programs:

- Recent research on behavioral economics provides valuable insights into the various quirks, biases and emotions that influence how Humans make financial decisions.²
- Recent research sponsored by the Society of Actuaries (SOA) has led to the development of actuarial and economic engineering methods that can optimize retirement income solutions in DC plans.^{3,4}

1 Ruth Helman, Craig Copeland and Jack VanDerhei, “The 2015 Retirement Confidence Survey: Having a Retirement Savings Plan a Key Factor in Americans' Retirement Confidence,” Employee Benefit Research Institute Issue Brief, no. 413 (April 2015).

2 Steve Vernon and Elizabeth Borges, “The MORE Design: Integrating Psychological Science and Behavioral Economics to Engineer Better Outcomes with Human Resources, Benefits, and Retirement Programs,” Stanford Center on Longevity project (forthcoming).

3 Steve Vernon, “The Next Evolution in Defined Contribution Retirement Plan Design: A Guide for DC Plan Sponsors to Implementing Retirement Income Programs,” Stanford Center on Longevity project (September 2013).

4 Steve Vernon, Wade Pfau and Joe Tomlinson, “Optimizing Retirement Income Solutions in DC Retirement Plans, Phases 1 and 2,” Stanford Center on Longevity project (July 2015).

Behavioral Economics Can Help

Let’s take a look at some of the behavioral economics principles that are relevant to retirement plan design and individuals’ decision-making.

- **Bounded rationality** refers to the fact that many people lack the cognitive ability to solve complex problems. Even people who might have the intellectual capability to do so may not have the time or motivation to focus on all the complex challenges they face. That’s why our society makes extensive use of specialization; consumers of all types benefit from the skills of specialists, such as engineers, doctors, architects, plumbers and so on. Retirement income planning is one of those complex challenges that deserves the attention of specialists such as actuaries and investment managers. In fact, studies have shown that many people would prefer to have a specialist do their retirement income planning for them.
- **Loss aversion** refers to the phenomenon that people feel the pain of losses more than they might feel the joy of gains. That’s why people will go to great lengths to avoid losses, even if avoiding these losses means they forgo the possibility of reaping gains.
- **Framing** refers to how people express the relevant features of a decision they face, and the possibilities and consequences of a decision they choose to focus on.
- **Defaults** take advantage of inertia and social norms to guide participants to better outcomes. Defaults have been deployed successfully by many retirement plan sponsors to increase contributions during participants’ working years. The next frontier is to design defaults that apply in the payout phase.

The SOA and other institutions have surveyed retirees to understand the strategies they use to spend their retirement savings. Few retirees have a formal strategy—10 percent to 25 percent, depending on the survey you read. Common responses to questions about how they spend their savings include “gut feel” and “the amount I need to meet my living expenses.”

Retirees tend to exhibit two distinct strategies: (1) spending their savings too rapidly, at a rate that most likely will cause them to outlive their savings, or (2) conserving savings for a rainy day, often withdrawing just the required minimum distribution (RMD) from IRAs and 401(k) accounts. Neither strategy seems optimal in a DC world.

Engineering Optimal Retirement Income Solutions

The SOA’s Committee on Post-Retirement Needs and Risks recently sponsored research by the Stanford Center on Longevity (SCL) to analyze optimal retirement solutions that can be offered in a DC retirement plan.^{5,6} This research shows how to use a diversified portfolio approach to retirement income, where retirees optimize the income they receive from Social Security, pensions, invested assets and annuities to achieve stated goals.

Typical retirement income goals include:

- A desire for liquidity to meet emergencies
- Maximizing expected lifetime retirement income
- Income that doesn’t decrease due to capital market volatility
- Income that retirees can’t outlive

The research analyzed how various retirement income generators (RIGs) can meet these objectives. Here are a few key results:

- There’s a distinct, quantifiable tradeoff between liquidity and maximizing income; increasing expected access to savings reduces the income retirees are expected to receive over their lifetime in predictable ways.
- For most retirees, using retirement savings to enable delaying Social Security benefits increases expected lifetime income.
- The SOA/SCL research shows that once a retiree achieves a basic level of guaranteed, lifetime retirement income from Social Security, pensions and/or an annuity, optimal solutions would invest remaining assets 100 percent in equities. In essence,

5 Vernon, “The Next Evolution.”

6 Vernon, Pfau and Tomlinson, “Optimizing Retirement Income Solutions.”

- sources of guaranteed lifetime income become the “bond” part of a retiree’s income portfolio.
- For the portion of retirement income that’s generated from invested assets, the required minimum distribution can be a reasonable solution that’s easy for plan sponsors and retirees to implement. This solution works best if retirees have a basic level of guaranteed income from other sources. Of course, there are other methods to implement systematic withdrawals from invested assets, but they often involve periodic interventions from an informed retiree or financial professional.

A Better Approach: How DC Plan Sponsors Can Help

DC plan sponsors can combine behavioral economics principles with this recent actuarial and economic research to engineer retirement income solutions for Humans that enable retiring employees to convert their savings into reliable retirement income. A key part of this program is a retirement income menu with simple “check the box” options that retiring employees can elect; this menu would be integrated with the investment menu that’s already familiar to workers while they’re accumulating savings.

Many middle income retirees don’t have access to financial professionals who are skilled in retirement income generation and who aren’t conflicted by the way they’re compensated. A retirement income program can provide these retirees with trustworthy methods to convert their hard-earned savings into reliable income.

The SOA/SCL research supports a retirement income menu design with at least three distinct RIG options:

- Systematic withdrawal program from invested assets in the plan
- Guaranteed, lifetime annuities offered by an insurance company
- A temporary payout from plan assets that enables delaying Social Security benefits

A retiree could allocate their savings among one or more RIGs to develop the retirement income portfolio that best meets their needs and circumstances.

The default retirement income solution should be designed carefully to meet the needs of the greatest number of retiring employees, while also protecting plan sponsors from fiduciary liability.⁷ A carefully constructed default would send a message to plan participants that the plan sponsor has worked with experts to develop a retirement income solution that might work reasonably well for many people. Retiring employees can always opt out of the default if they’ve read the communications material and carefully considered their alternatives.

One possibility is to offer different defaults for employer and employee contributions. Employer contributions could be defaulted into guaranteed lifetime annuities. In this case, the stated objective of the plan design would be to provide lifetime retirement income. Employee contributions could be defaulted into flexible lifetime payout options such as systematic withdrawals from invested assets using the RMD. It’s hard to imagine a plan sponsor incurring fiduciary liability if the default solution is something called “the IRS Required Minimum Distribution.”

Today, the default many retirees elect is a lump sum rollover from their employer’s plan into an IRA. This default potentially exposes retirees to reduced retirement incomes, compared to other solutions that could be offered within the employer’s plan.

Using computer modeling offered by the plan sponsor or administrator, retirees could estimate how much retirement income they might receive with the default option or various combinations of the above RIGs. This is a critical retirement planning task—only Econs are capable of completing the necessary calculations on their own. An easy-to-use modeling capability helps Humans and their advisers decide if they have enough savings to retire, and to consider the necessary tradeoffs between the retirement income goals expressed above.

Using Behavioral Economics Principles to Improve Retirement Program Design

A critical part of a retirement income program is communicating the features of the various RIGs

⁷ Steve Vernon, “Foundations in Research for Regulatory Guidelines on the Design and Operation of Retirement Income Solutions in DC Plans,” Stanford Center on Longevity project (September 2014).

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offered in the retirement income menu to help retiring employees make effective decisions. As discussed above, plan sponsors can carefully design defaults to meet the needs of the majority of retiring employees. So let's discuss some additional ideas for deploying behavioral economics principles to help guide retiring employees to optimal solutions.

Many older workers strongly desire freedom from work and want to retire as soon as financially feasible. They frame the loss they want to avoid (loss aversion) as losing years of retirement freedom by retiring too late. If they don't understand the amount of retirement income their savings can generate, they may demonstrate the phenomenon of “unrealistic optimism” by assuming their savings are sufficient to retire. The modeling capability described above can offer a realistic picture of their retirement cash flow. If they realize they have inadequate retirement resources, a more effective life decision may be to redesign their work to make it more enjoyable, enabling them to continue working and delay drawing down financial resources until those resources are adequate.

Another factor that often influences a retirement decision is the possibility of dying early. They frame the loss they want to avoid as the regret they'd feel if they died too soon to enjoy their retirement years. This thinking helps them rationalize starting Social Security benefits as soon as possible, electing lump sums from DB or cash balance plans, and using invested assets to generate retirement income instead of taking advantage of the lifetime guarantee of annuities (which are often irrevocable with no liquidity). Research shows that such decisions may not be optimal from a pure financial perspective.

One way to address this concern is to point out the consequences of dying early vs. living a long time. If they die early, can they really know how much regret they might feel about their retirement decisions when they're dead? In addition, guaranteed sources of lifetime income such as annuities typically deliver higher income in the early years of retirement than formal systematic withdrawal programs with invested

assets. So if they die early, they'll enjoy higher levels of income before their early demise if they've elected some annuity income.

On the other hand, advisers could frame a potential loss to avoid as the possibility that retirees will live a long time and run out of money. In this situation, it's possible for many people to imagine being old and poor (they might observe older friends and relatives in this situation). Framing the loss this way can help them rationalize delaying Social Security benefits, electing the monthly annuity from a DB plan, and deploying some assets into lifetime guaranteed annuities.

Loss aversion would also indicate that retirees should prefer some amount of guaranteed income that wouldn't decrease due to investment losses, over retirement income generated from invested assets with the potential for reductions in income resulting from investment losses. Social Security, DB plans and annuities all provide this type of guaranteed income.

There's evidence that the “planning” done by many middle income retirees is to determine if they can cover their monthly living expenses with their retirement income: Social Security, a pension (if they have one) and any other recurring income. If they can cover their current living expenses, they decide retirement is feasible. Down the road, they think they'll reduce their living expenses if necessary.

While this isn't the ideal way to plan for retirement income, it's the reality for many retirees. Plan sponsors can help by enabling their retirees to “pensionize” their DC accounts and convert them into recurring income.

Plan sponsors can enhance the planning process further by using behavioral techniques to engage and motivate retiring workers to spend more time planning their retirement security. For example, retirement readiness programs can help retiring workers envision a positive life in retirement. Another effective technique is to use virtual reality to show people what they might look like in 10 or 20 years to motivate them to take care of their future self.

Advantages to Retiring Workers and Employers

A retirement income program offers the following advantages to retiring employees:

- Institutional pricing has the potential to increase retirement incomes by 10 percent to 20 percent compared to retail solutions.⁸
- The employer’s plan is a safe place to keep retirement savings, away from fraudsters who target seniors.
- Solutions are more likely to be implemented successfully if it’s easy for retiring employees to implement their decisions.

A successful retirement income program will also help employers better manage an aging workforce. It demonstrates that employers care about key life issues

facing their older workers, which improves their morale and productivity. If older workers are uncertain whether they have enough savings to retire, or how to deploy their savings in retirement, their default decision is to continue working. Eventually this decision will become undesirable for both the worker and employer.

Finish the Job

Plan sponsors shouldn’t wait for the perfect retirement income solution to be developed—that most likely won’t happen, and it’s not necessary. Good retirement income solutions exist today that are much better than the practice in most DC retirement plans, which is often to do nothing. Don’t let “perfect” be the enemy of “good.”

Plan sponsors will need to take the steps advocated in this essay to successfully finish the transition from DB to DC retirement plans.

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8 Vernon, “The Next Evolution.”