



Increase Retirement Spending With Lifetime Income

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Introduction

The potential costs associated with funding an extended retirement period is commonly referred to as longevity risk. In a defined benefit (DB) pension plan, this risk is effectively pooled among the plan participants to structure consistent payments to beneficiaries. However, in defined contribution (DC) plans, such as 401(k)s and 403(b)s, each participant effectively bears the risk individually (i.e., it is idiosyncratic) and must attempt to create an income plan that they will not outlive, generally resulting in reduced spending in retirement.

This piece explores the potential economic benefits from allocating to lifetime income strategies. The analysis suggests that spending in retirement could increase by roughly 30 percent by allocating to a lifetime income annuity (versus self-annuitizing), although the actual benefit is likely to vary notably across retirees, based on factors such as risk tolerance, income risk aversion, and life expectancy.

This analysis focuses solely on the potential economic benefits associated with allocating to lifetime income. There are additional potential behavioral benefits that should also be considered. For example, retirees appear to be much more willing to spend lifetime income versus savings (i.e., lifetime income gives retirees a “license to spend”¹), which suggests the actual total impact on spending from allocating to lifetime income strategies could be significantly higher than noted in this piece.

In summary, the shift to DC plans presents both opportunities and challenges for households, with longevity being a key risk that will increasingly need to be addressed and managed. Strategies designed to explicitly provide longevity protection, such as delayed claiming of Social Security retirement benefits and allocating savings to a lifetime income annuity, should be increasingly valuable to retirees and proactively considered as part of any comprehensive retirement income plan.²

¹ Source: *Guaranteed Income: A License to Spend*, LIMRA, 2026.

² Source: *How to Help Americans Claim Social Security at the Right Age*, Bipartisan Policy Center, August 2020.

The Evolving Retirement Planning Landscape

Employers are increasingly turning to DC plans to help their employees prepare for retirement. This shift eases many of the operational burdens associated with offering a retirement plan for the employer, but it requires employees to make a variety of relatively complex decisions, both in terms of accumulating wealth (what to invest in) and decumulating wealth (an income or spending plan).

While structures such as automatic enrollment coupled with default savings rates, as well as target-date funds, have emerged as viable ways to help workers accumulate sufficient savings, there are still notable challenges for Americans when it comes to decumulating their wealth, especially risks related to longevity.

Within a DB plan structure, given a sufficiently large pool of participants, the plan sponsor is effectively able to base payments on the life expectancy of the cohort. Within a DC structure, basing the retirement planning period on life expectancy would be a relatively aggressive assumption, since there is effectively a 50 percent probability the person would outlive the respective period. In other words, to avoid the possibility of outliving savings, Americans typically use conservative longevity planning estimates (i.e., stretch beyond life expectancy). For example, instead of basing spending decisions on pure life expectancy (which could last 25 years), the participant may target a period that has a lower probability of being outlived (e.g., 30 years). Planning for a period beyond life expectancy reduces spending compared to what could be spent if life expectancy were used.

While it is unlikely that employers will start to re-embrace DB plans, there are solutions and products available for individual retirees that involve longevity risk pooling, such as delayed claiming of retirement benefits and purchasing an annuity that provides lifetime income. Under either approach, individuals can likely generate more income from the lifetime income strategy than if they withdrew from savings over their lifetime, often referred to as self-annuitization.

Risks that are low frequency and high severity/cost are generally considered to be the ideal risks to transfer to a third party (i.e., insure with lifetime income). Longevity risk fits well within this category, which is why there are decades of research noting the potential benefits of lifetime income strategies.

The optimal amount of the risk to transfer (i.e., insurance to purchase), though, depends on a variety of assumptions. This piece explores the potential benefit of purchasing a lifetime income annuity from the perspective of how much additional income could be generated based on a few variables that likely affect the decision, including risk tolerance and target income variability.

Note: This analysis focuses entirely on the expected economic benefits of lifetime income and does not consider the additional potential behavioral spending benefits. For example, David Blanchett and Michael Finke³ find that retirees appear to be much more likely to spend from lifetime income compared with other retirement assets, such as savings. While there are numerous papers exploring the economic benefits of allocating to lifetime income, there is relatively little research currently on the behavioral benefits, and we hope there is additional research specifically on the behavioral aspects in the future.⁴

Improving Spending With Lifetime Income

To determine how much retirement spending could change (i.e., increase) by allocating to lifetime income, in particular a lifetime income annuity, an analysis was conducted. The analysis included a Monte Carlo simulation where there are two random variables: mortality and investment returns.

Mortality rates are based on the Society of Actuaries (SOA) 2012 Individual Annuity Mortality (IAM) table. Mortality rates include improvement (Scale G2) both up to 2025 and into the future. The SOA 2012 IAM table reflects mortality rates of individuals who actually purchase annuities, who tend to be significantly healthier than the average American.

There is a growing divide in life expectancies among Americans by dimension, such as income (and wealth). For example, according to Chetty et al.,⁵ households in the top two income deciles have life expectancies that are approximately 3 to 5 years longer than the average American. This effect is especially important for Americans who accumulate significant DC savings, since these households are typically much wealthier than the average American, and as such, are likely to experience longer retirements.

³ Source: *Guaranteed Income: A License to Spend*, LIMRA, 2026.

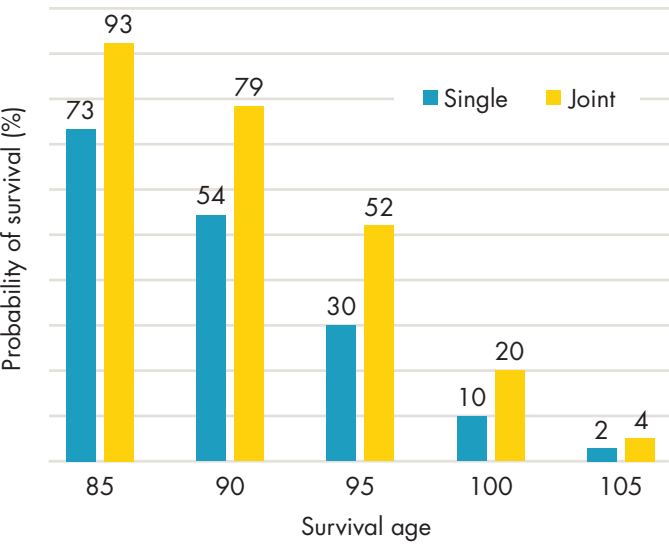
⁴ Source: *The Role of Annuities in an Optimal Retirement Portfolio: A Review of the Literature*, LIMRA, 2023.

⁵ Source: *The Association Between Income and Life Expectancy in the United States, 2001-2014*, JAMA, 2016.

The analysis focused on two household types: a single individual and joint couple. Mortality rates for the single individual are the average of mortality rates for males and females, with an assumed retirement age of 65. The couple was assumed to be a male and female, also both age 65. Mortality rates for the couple were assumed to be independent, something Blanchett demonstrated as reasonable.⁶

Figure 1 includes information about the probabilities of survival for different ages for a 65-year-old.

Figure 1 — Probability of Survival for Different Ages for a 65-Year-Old



Source: Author’s calculations, Society of Actuaries 2012 Individual Annuity Mortality table.

Figure 1 illustrates how a person who is able to build a retirement plan based on life expectancy could plan for a shorter retirement period than someone who wanted to build in an additional degree of safety. For example, the life expectancy for a single person (i.e., approximately a 50 percent probability) at age 65 is approximately 25 years (to age 90, with a probability of 54 percent).

In contrast, if the person wanted to use a more conservative period and targeted a 10 percent probability of survival, the retirement period would be 35 years (to age 100). This increases the retirement planning period by approximately 35 percent ($35/26 = 34.6$ percent).

The investment portfolio is assumed to consist of two investments: bonds and equities. Returns are for bonds and equities are assumed to be 5.0 percent and 7.5 percent,

respectively, for the first 10 years of the projection, and 5.0 percent and 10.0 percent, respectively, for the remainder. The lower returns for the immediate future reflect reduced near-term return expectations, in particular for equities. There is an additional 0.5 percent fee that reduces the assumed net return of the portfolio.

The standard deviations for bonds and equities are 6.0 percent and 18.0 percent, respectively, and the correlation between bonds and equities is assumed to be 0. Three equity allocations are considered for the analysis: 0 percent, 40 percent, and 80 percent, which are assumed to correspond to risk tolerance levels of low, mid, and high, respectively.

There is no inflation assumption for the analysis because the assumed spending level is assumed to be nominal (i.e., constant throughout retirement). Nominal payouts are consistent with available lifetime income annuities products, since the authors are not aware of any products offering uncapped cost-of-living adjustments linked to inflation — i.e., the consumer price index (CPI).

Note: Social Security retirement benefits are explicitly linked to inflation, which makes delayed claiming especially valuable when compared with the available product landscape (i.e., lifetime income annuities).

Some readers may question the efficacy of a lifetime income annuity that provides only nominal payouts, but it’s important to think about the role of the lifetime income annuity holistically. For example, Blanchett,⁷ among others, noted that retirement spending tends to decline approximately 1 percent to 2 percent compared with inflation throughout retirement (i.e., declines in real terms). Given that the majority of Americans already receive Social Security retirement benefits, which are explicitly linked to inflation, and have other assets (such as equities and a home) that should also positively covary with inflation, the need for the lifetime income annuity to be linked explicitly to inflation is significantly reduced.

The analysis includes 5,000 runs. Increasing the number of runs in a Monte Carlo simulation increases as more variables are treated as random (i.e., stochastic). Most Monte Carlo engines today treat investment returns as the only random variable, while this analysis treats both returns and mortality (i.e., the length of retirement) as random. In reality, there are additional variables that could potentially be treated as random as part of a retirement income plan (e.g., age of retirement, a long-term healthcare shock, etc.) but are less relevant for this analysis given the relatively specific focus.

⁶ Source: *My Heart Will Go On: The Retirement Planning Implications of the Widowhood Effect*, Retirement Management Journal, 2024.

⁷ Source: *Exploring the Retirement Consumption Puzzle*, Journal of Financial Planning, May 2014.

For the analysis, portfolio spending amounts (i.e., withdrawal rates) are estimated so that the target income goal is accomplished for a given number of trials (assuming a random retirement period, consistent with mortality rates of the respective retiree scenario). Three success rates are targeted 50 percent, 80 percent, and 90 percent, which are assumed to be mapped to income volatility levels of high, mid, and low.

We use the term “income volatility” versus “success rates” because, in reality, the assumed target reflects the level of certainty with a given withdrawal rate (i.e., how likely the retiree will need to make a change to spending levels during retirement). As we will demonstrate, a 50 percent success rate (i.e., the high-income variability condition) would generally be associated with planning to life expectancy, consistent with how payouts are in an annuity.

Results

First, we provided context around the optimal initial withdrawal rates for the various scenarios considered, which are included in Table 1. The table shows how much can be safely withdrawn from retirement savings each year based on different combinations of risk tolerance and income variability, for both single individuals and joint couples.

Table 1 — Optimal Initial Nominal Withdrawal Rates by Scenario for a 65-Year-Old Retiree

Single				Joint			
	Risk tolerance				Risk tolerance		
Income variability	Low	Mid	High	Income variability	Low	Mid	High
Low	4.9%	5.3%	4.5%	Low	4.6%	5.0%	4.2%
Mid	5.3%	5.9%	5.4%	Mid	5.0%	5.5%	5.0%
High	6.4%	7.3%	7.7%	High	5.9%	6.7%	7.0%

Source: Author’s calculations, Society of Actuaries 2012 Individual Annuity Mortality table.

The initial withdrawal rates are notably higher than past research, which can primarily be attributed to the fact that the target withdrawal rate for this research is nominal (i.e., not increased with inflation). The “4% Rule,” as estimated by William Bengen,⁸ assumes the initial withdrawal amount is increased by inflation throughout retirement. For this analysis, the initial income amount is held constant, which significantly reduces the potential withdrawal later in retirement.

One interesting point about the withdrawal rates in Table 1 is that the balanced portfolio (i.e., mid risk tolerance, which corresponds to a portfolio that is 40 percent equities and 60 percent bonds) often provided the highest withdrawal rates (i.e., withdrawal rates did not increase monotonically by risk levels). In other words, there does appear to be “free lunch” when it comes to maximizing income in retirement by allocating to a diversified portfolio.

To provide context on how the withdrawal rates compare with what type of income would be available from a lifetime income annuity, quotes were obtained on immediate life annuities from CANNEX, an online annuity platform, on August 26, 2025. The life annuity quotes include a cash refund provision, which means the annuitant is guaranteed to at least receive their initial premium back regardless of how long they live. This is included since relatively few lifetime income immediate annuities are truly “life only,” as documented by Blanchett.⁹

The top five quotes for a single male and single female are averaged, and the payout rate (i.e., annual income divided by initial

⁸ Source: *Determining Withdrawal Rates Using Historical Data*, Journal of Financial Planning, 1994.

⁹ Source: *Life Only Annuity Risk Isn’t Really a Risk*, LIMRA, 2023.

premium) is approximately 7.0 percent. For the quotes for the joint couple, which also included a cash refund provision and nonreducing benefit upon the death of the first spouse, the payout was approximately 6.5 percent. These payout rates fall between the high-income variability targets for the low and mid risk tolerance (i.e., roughly consistent with a 25 percent equity portfolio).

Table 2 compares the payout rates for both single individuals and joint couples available from the lifetime income annuities with the initial nominal withdrawal rates noted in Table 1 to provide context around the potential increase in spending from allocating to a lifetime income annuity.

We can see that the potential benefit from allocating to a lifetime income annuity varied notably across the particular assumptions. For example, allocating to a lifetime income annuity would be expected to increase income (i.e., spending) by over 40 percent for a single retiree targeting a low-income variability who also had a low risk tolerance. Alternatively, a single retiree with a high-risk tolerance who is willing to accept a high level of income variability could likely generate about 9 percent more income from a portfolio versus a lifetime income annuity.

Relatively few retirees are likely to be comfortable with a high level of income variability and investing in an aggressive portfolio during retirement. Therefore, if we focus on the average improvement among the low to mid risk tolerance scenarios and low to mid income variability, across both single and joint scenarios, allocating to the lifetime income would be expected to increase retirement spending by approximately 30 percent.

Note: For the scenarios where the income annuity generates less income than the portfolio, there are alternative products that would likely dominate a self-annuitization approach. For example, if the retirees were comfortable investing more aggressively and with a high level of income variability, they could consider immediate variable annuities or products with some type of protected lifetime income benefit (PLIB) structure. Research¹⁰ suggests that these types of lifetime income annuities economically dominate self-annuitization when controlling for various preferences and actually work better as part of a holistic retirement income plan than more traditional fixed annuities. In other words, when controlling for risk tolerance and income variability, a pooled longevity solution would generally be expected to dominate self-annuitization from a pure income perspective.

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¹⁰ Source: *Protected Lifetime Income Benefits: The Next Generation* GLWB, LIMRA, 2023.

Table 2 — Increase in Spending Rates With Lifetime Income Annuity

Single			
	Risk tolerance		
Income variability	Low	Mid	High
Low	42.9%	32.1%	55.6%
Mid	32.1%	18.6%	29.6%
High	9.4%	-4.1%	-9.1%

Joint			
	Risk tolerance		
Income variability	Low	Mid	High
Low	41.3%	30.0%	54.8%
Mid	30.0%	18.2%	30.0%
High	10.2%	-3.0%	-7.1%

Source: Author’s calculations, Society of Actuaries 2012 Individual Annuity Mortality table.

Conclusions

Decumulating wealth is generally considered to be more complicated than accumulating it. The shift toward DC plans requires retirees to make many complex decisions that are likely to result in lower spending if there are not explicit protections around longevity.

Therefore, actively considering lifetime income as part of a holistic retirement income plan is becoming increasingly important. While many retirees can likely get sufficient lifetime income from delayed claiming of Social Security retirements, lifetime income annuities are an additional option that should be considered, especially as the solution set continues to evolve.

Authors



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Additional Information

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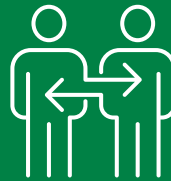
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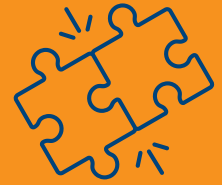
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