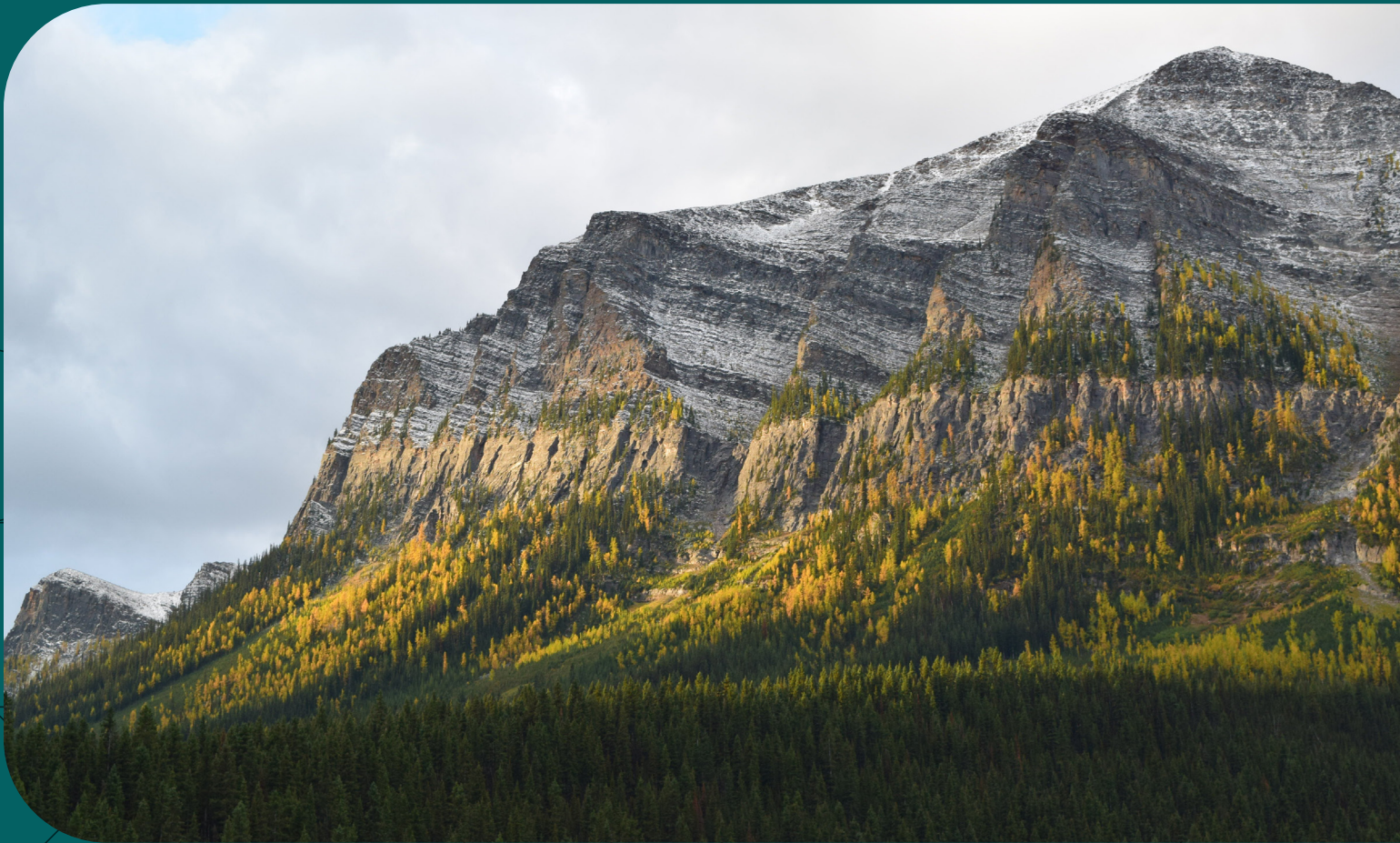


# Freedom to Spend

Building a Better Retirement Income Plan  
Using Income Paths and Flexible Spending



# Executive Summary

People want to know how much they can safely spend in retirement. However, the common approach to answering this question, the 4% rule, is unrealistic since it ignores our ability to tweak spending in response to real life market returns. A more practical model gives people the freedom to spend earlier in retirement because it allows for adjustments in spending based on prevailing conditions, including the portfolio value and individual longevity expectations.

Saving in a defined contribution plan means that retirees are ultimately responsible for creating a lifestyle from investments. To craft a plan, we know that:

- Retirees need help understanding how much they can safely spend in retirement.
- Investment risk and an unknown lifespan require some degree of spending flexibility.

The reliance on a measure of failure to maintain a fixed lifestyle provides little information about the consequences of accepting investment and longevity risk. Failure rates also do not help an individual imagine the range of retirement lifestyles they may need to accept. We propose the IncomePath methodology, an adaptive withdrawal strategy that gives financial professionals and individuals a clearer understanding of risk and financial product choices.

The IncomePath methodology:

- Empowers individuals to choose a spending strategy best suited to their needs and revisit that strategy in the future.
- Allows a retiree to spend more early in retirement if they have greater spending flexibility to adjust for bad luck in the portfolio.
- Provides a visual representation of possible income paths that take into account income planning objectives that include investment risk, initial spending amount, and ability to adjust future spending.
- Allows a retiree to benefit from the rewards of investment risk by spending more throughout retirement on average.
- Provides a clearer understanding of the lifestyle benefit of allocating a portion of savings to a product that reduces longevity risk.

Retirement income planning is not a one-time event but it is an ongoing process of reevaluation based upon current conditions. The IncomePath methodology offers a valuable lens to make decisions not only for the future but also to adjust along the way, as the underlying withdrawal strategy suggests.

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# Introduction

“Understanding how much I can safely spend in retirement” is by far the most popular financial goal that motivates consumers to seek advice from a financial professional, [research shows](#). The defined contribution era has forced a generation of new retirees to take control of creating a lifestyle from savings without the tools they need to make the right decisions.

Showing a retiree how much they can safely spend each year isn't easy. Nobody knows what investment returns will be in the future. And nobody knows exactly how long retirement will last.

**Showing a retiree how much they can safely spend each year isn't easy.**

The traditional approach to create a safe income from savings is the so-called 4% rule, which advisor William Bengen [published in 1994](#). Since then, the financial advice profession has looked at retirement income planning through a lens that assumes a fixed lifestyle (adjusted for inflation) and uses failure rates to evaluate investment choices.

Imagine being a client who seeks out a professional to help understand how much you can safely spend and being told that you can spend 4% of your savings with a 13% chance of failure. This information lacks clarity, and the focus on failure casts a negative tone on an already complex and stressful conversation. What if I'm one of the unlucky 13%? What does it mean to fail?

But realistically, imagine the same client as an unlucky retiree who experiences a market crash. Will they continue spending the same amount when their nest egg shrinks? Of course not. The concept of failure assumes no spending adjustment, even in the face of drastic circumstances. This simply goes against both logic and human nature and is not a reasonable basis to explain the risks and rewards of different choices in retirement income planning.

In practice, every retiree is able to adjust their spending if markets perform poorly, perform better than expected, or if their health or personal circumstances change. After all, Bengen himself stated that the purpose of his modeling was to use math to prevent clients from having unrealistic spending expectations, explicitly framed within the context of an ongoing advice relationship. Not to put too fine a point on it, Bengen always assumed clients would make an annual adjustment but lacked the tools to build that into his model at the time.

# Reimagining the 4% Rule

We have both been evolving an understanding of alternatives that are more intuitive and provide a better basis for decision-making. In 2012, Michael Finke [co-authored a paper](#) that showed how a flexible approach in which retirees increase or decrease spending over time offered better outcomes than a fixed spending approach such as the 4% rule. This finding supported the use of spending strategies like guardrails that allow spending adjustments during retirement.

In 2020, Tamiko Toland [co-authored a white paper](#) that details different alternatives and illustrates

the benefit of using a strategy that incorporates longevity while adjusting spending each year. After all, the risk of portfolio depletion from withdrawals during retirement is closely tied to the uncertainty of the human lifespan. As an alternative, the common practice is to select a “past due date” for the retiree which the portfolio must outlast.

While our respective analyses explained the benefit of spending flexibility and the value of considering longevity, neither focused on the ways such a model could help a retiree select the degree of flexibility they want for their own retirement lifestyle.

## The Sharpe Approach

By Michael Finke

During an interview with William Sharpe in 2019, he took me aside during a break in filming to show me simulations he'd been conducting in order to understand how a complex retirement income product performed in different market environments. Sharpe's approach was to map out how unlucky and lucky retirees fared when investment returns were better or worse than expected. Lucky retirees had higher and smoother simulated incomes over time, and unlucky retirees had lifestyles that were lower and more erratic.

Seeing investment uncertainty modeled across retirement highlighted the most important flaw of failure-based simulations. Sharpe never imagined that a retiree could simply spend the same amount each year because it makes no economic sense to assume a fixed lifestyle from a volatile investment portfolio. An economic approach focuses on lifestyle variability. We simply need to demonstrate how both investment risk and the use of financial products affect possible income paths over time to give retirees the information they need to choose how much variation in spending they're willing to tolerate.

IncomePath builds on this concept to create a framework that helps individuals make effective and intuitive choices about their own retirement.

**Sharpe's approach was to map out how unlucky and lucky retirees fared when investment returns were better and worse than expected.**

# The IncomePath Methodology

At the heart of IncomePath lies a withdrawal methodology better representing retiree withdrawal behavior that, like retirees themselves, is sensitive to portfolio changes and longevity. The calculation incorporates life expectancy into the withdrawal calculation but has an objective of maintaining a stable income throughout retirement.

The IncomePath methodology is an adaptive withdrawal strategy that recalculates the withdrawal every year based on the account value and the expected lifespan of the individual. In addition, it allows a withdrawal adjustment that permits spending flexibility up to a stated percentage of the previous year's withdrawal. This means that 0% income flexibility keeps the initial spending level no matter what, which we typically see in planning tools. By contrast, 10% income flexibility could potentially cause spending of \$50,000 in one year to drop to \$45,000 in the next.

For this paper, we settle on 4% (up or down) as a "reasonable" degree of income flexibility which we expect many retirees would tolerate. We assume a \$1,000,000 starting portfolio and withdrawals that begin at age 65. The capital market assumptions are 9% equity returns and 5% bond returns, and income amounts are nominal.

The flexibility in the examples is symmetric, meaning that the tolerance for variability is equal in both directions. However, it is possible to build in asymmetrical variability tolerance, an absolute floor, or other guardrail designs. The IncomePath algorithm accommodates different approaches to implementing spending flexibility. Unlike the 4% rule, spending more when asset returns are higher allows the retiree to enjoy a lifestyle benefit from accepting investment risk.

## A Higher Withdrawal Target Shifts Spending to Early Retirement

For our examples, a Monte Carlo model simulates possible stock and bond returns during retirement. In the first year of retirement, a retiree could begin by spending \$40,000 or \$50,000. Each year, the retiree adjusts their spending based on the algorithm up to the 4% flexibility limit. This flexible withdrawal approach never causes the portfolio to deplete under either income scenario (it can, but in this case it does not). In other words, the retiree gets a 100% success rate and can maintain income levels that generally increase throughout retirement. Raising the initial income target results in higher spending in early retirement and the more modest 4% initial withdrawal rate results in a steeper income path.

Our example employs an algorithm that prioritizes level spending over an income path that cuts spending sharply when expected remaining longevity is very low in old age. A retiree who doesn't insure against a drop in later-life income must either be willing to cut back in old age or be willing to sacrifice lifestyle in order to preserve enough wealth to smooth spending at that time. In other words, a desire to smooth spending late

# 25%

**A 25% higher initial withdrawal rate means that an average retiree continues to spend 21% more at age 70 and 16% more at age 75.**

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in life will result in a higher average bequest because assets are preserved to ensure spending stability.

The initial income is 25% higher when we increase the withdrawal rate from 4% to 5%. The table below shows that the simulated path of income remains at least 21% higher at age 70. The tradeoff is more modest spending increases later in retirement. At age 95, the median retiree is spending 10% less yet their income is higher than it was in the first year of retirement.

The sharpest decrease in lifestyle occurs among those who spent more early in retirement and experienced worse asset returns. By age 100, they are spending only \$20,000 above Social Security. Accepting investment risk and living better early in retirement means that an unlucky retiree will have to make a considerable sacrifice in lifestyle; however, they will not “fail” and be left with no income at all.

More fortunate retirees who use an asymmetric spending adjustment will increase their nominal spending. Instead of linking upward-spending adjustments to changes in inflation, the IncomePath approach allows the retiree to spend more when market returns allow a safe spending increase. Forcing an inflation adjustment without taking

realized asset returns into account will result in a higher probability of cutting back (or running out) in old age.

The spread of possible results demonstrates both the risk and returns reward of using this strategy at each age band, allowing the individual to comprehend the lifestyle they could get depending upon how lucky or unlucky they are.

There is not a superior pathway but there is a preference—all things being equal, would a retiree choose the 4% or 5% target? The 5% target generates an income path that produces higher income in the early years and, on average, will still result in a gradual increase in income over time.

**It's a matter of personal choice and not quantitative certainty.**

### Outcomes Throughout Retirement Comparing 4%, 5% Target Withdrawals (in \$000s)

	AGE 65		AGE 70			AGE 75			AGE 80			AGE 85			AGE 90			AGE 95			AGE 100		
	TARGET WITHDRAWAL	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%	4%	5%		
<b>5TH</b>			\$47	\$58	25%	\$57	\$68	20%	\$65	\$75	16%	\$75	\$83	10%	\$86	\$93	8%	\$101	\$101	0%	\$116	\$103	-11%
<b>10TH</b>			\$47	\$58	24%	\$54	\$64	18%	\$61	\$69	13%	\$71	\$76	7%	\$80	\$82	3%	\$88	\$86	-2%	\$105	\$95	-9%
<b>25TH</b>			\$45	\$54	21%	\$49	\$58	17%	\$54	\$61	11%	\$59	\$62	6%	\$66	\$65	-1%	\$73	\$68	-6%	\$79	\$71	-10%
<b>MEDIAN</b>	\$40	\$50	\$41	\$50	21%	\$43	\$50	16%	\$45	\$49	10%	\$46	\$49	5%	\$50	\$49	-3%	\$55	\$50	-9%	\$58	\$51	-13%
<b>75TH</b>			\$38	\$46	21%	\$38	\$43	15%	\$37	\$41	10%	\$37	\$39	5%	\$39	\$37	-3%	\$40	\$36	-9%	\$40	\$34	-15%
<b>90TH</b>			\$36	\$44	22%	\$33	\$38	17%	\$31	\$34	9%	\$29	\$30	4%	\$29	\$28	-5%	\$28	\$25	-11%	\$29	\$24	-18%
<b>95TH</b>			\$34	\$42	25%	\$30	\$36	20%	\$28	\$31	11%	\$26	\$27	6%	\$24	\$23	-4%	\$24	\$20	-16%	\$23	\$20	-11%

Source: IncomePath Inc.

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This framework allows a retiree to see the tradeoffs and make an informed decision. In this case, the 5% withdrawal nets higher income in early retirement in exchange for an upward income trajectory with a lower slope. It's a matter of personal choice and not quantitative certainty.

### Higher Investment Risk Means Higher Spending Volatility

The shift from savings to spending involves an increased allocation to fixed income assets in a traditional life-cycle glidepath, but equity still plays an important role in offering higher expected investment growth. How does the consideration of flexibility alter the income trajectory with a higher equity allocation in a portfolio?

The table below demonstrates the effect of increasing investment risk when using the 5% target withdrawal portfolio. Increasing investment risk results in more extreme positive and negative investment returns. This increases the likelihood that a retiree will need to increase or decrease their spending by the 4% limit for consecutive years. Limiting annual adjustment means that extreme lifestyle changes widen in old age.

Retirees who get a fortunate sequence of investment returns will be able to spend more when they take greater risk, and the lifestyle benefit of taking investment risk gets larger with age. However, retirees who get an unfortunate sequence of returns must cut back spending further at older ages to avoid running out of savings. Because there is an expected reward for accepting investment risk, taking greater investment risk will allow a median retiree to spend more. Taking more risk also means the possibility of spending less.

Traditional fixed withdrawal rate analyses that provide only a failure rate offer limited insight into the tradeoffs of accepting investment risk. While increasing investment risk might reduce the probability of running out of savings at a given age, risk also increases the probability that the retiree who wants to avoid running out of savings will need to make a more extreme adjustment to their lifestyle. As in the case when a retiree increases their initial lifestyle, personal preference plays a role in the choice of an appropriate range of income paths. Visualizing these paths allows an individual to make informed decisions about taking greater investment risk.

### Outcomes Comparing 40% to 60% Equity Allocation, 5% Target Withdrawal (in \$000s)

AGE	65		70		75		80		85		90		95		100						
	EQUITY ALLOCATION		40%	60%	40%	60%	40%	60%	40%	60%	40%	60%	40%	60%	40%	60%					
5TH	\$58	\$58	0%	\$68	\$71	4%	\$75	\$84	12%	\$83	\$97	17%	\$93	\$113	22%	\$101	\$131	30%	\$103	\$153	48%
10TH	\$58	\$58	1%	\$64	\$68	6%	\$69	\$78	12%	\$76	\$90	18%	\$82	\$101	23%	\$86	\$112	30%	\$95	\$132	40%
25TH	\$54	\$55	1%	\$58	\$61	5%	\$61	\$66	9%	\$62	\$71	13%	\$65	\$77	18%	\$68	\$86	26%	\$71	\$92	30%
MEDIAN	\$50	\$50	1%	\$50	\$51	3%	\$49	\$51	4%	\$49	\$52	7%	\$49	\$53	8%	\$50	\$57	14%	\$51	\$58	15%
75TH	\$46	\$46	0%	\$43	\$43	-1%	\$41	\$40	-3%	\$39	\$38	-3%	\$37	\$36	-3%	\$36	\$35	-4%	\$34	\$33	-3%
90TH	\$44	\$43	-2%	\$38	\$38	-2%	\$34	\$33	-5%	\$30	\$28	-5%	\$28	\$24	-14%	\$25	\$21	-16%	\$24	\$18	-23%
95TH	\$42	\$42	0%	\$36	\$35	-4%	\$31	\$31	-1%	\$27	\$25	-8%	\$23	\$20	-11%	\$20	\$17	-19%	\$20	\$13	-35%

Source: IncomePath Inc.

# Conclusions

Is it possible to spend more than 4% of a portfolio the first year of retirement? What is the best way to think about investment risk? Making the right choices means imagining the potential lifestyle consequences.

Not only can an adaptive withdrawal strategy demonstrate the feasibility of higher withdrawal rates early in retirement, but the range of results above and below the median show the potential consequences of accepting greater investment risk throughout retirement. The relationship between lifestyle and portfolio volatility is central to the IncomePath process of making important retirement income planning choices easier for individuals to understand.

### A Start, Not a Plan

The purpose of visualizing a range of lifestyles at the outset of retirement is to help individuals understand the risks and expectations involved with setting out on a particular path. The flexible spending approach involves making adjustments along the way and providing the information needed to anticipate these adjustments throughout retirement.

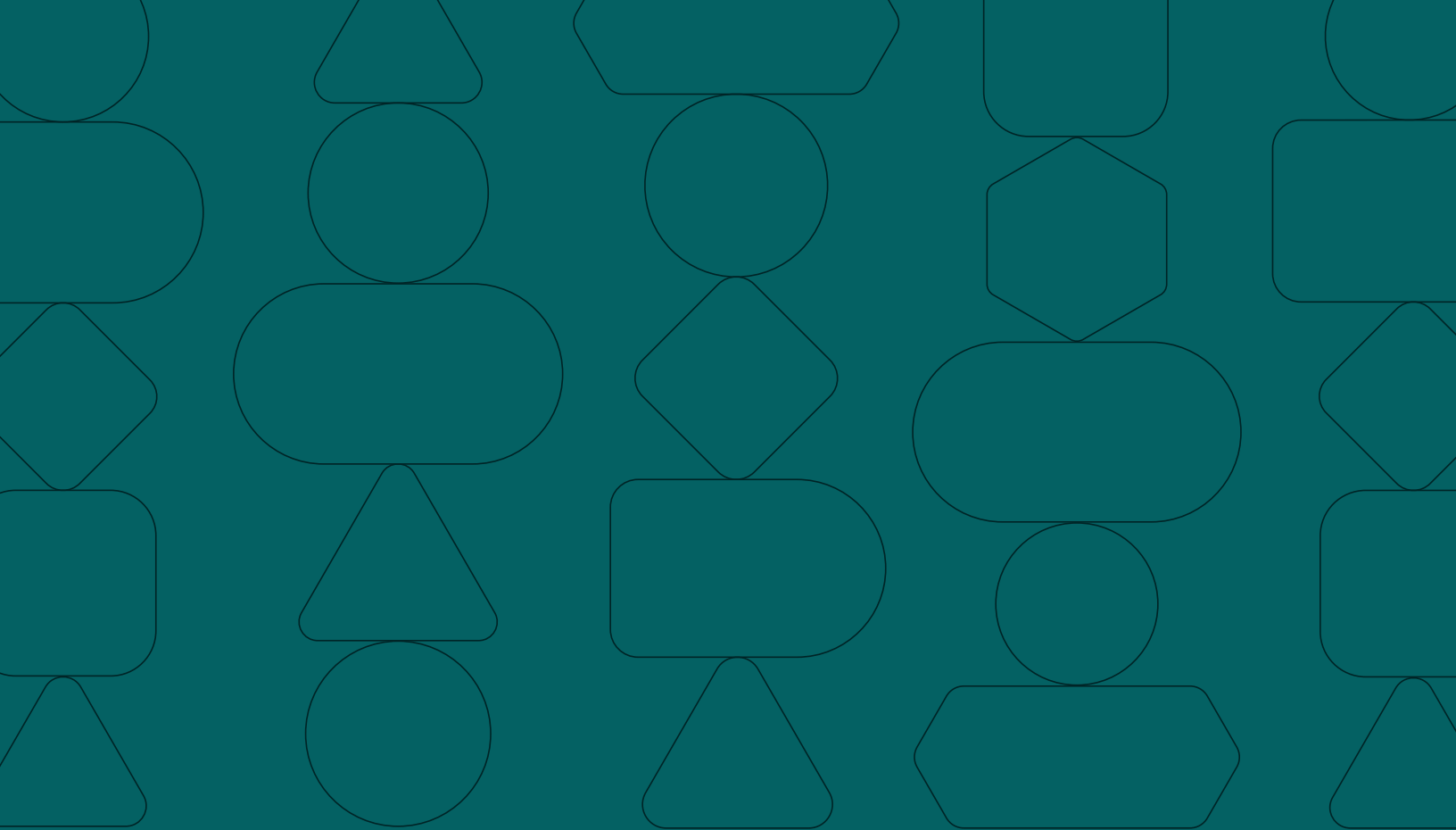
The question that retirees seek to answer is ultimately less about income than it is about lifestyle. They may

**The question that retirees seek to answer is ultimately less about income than it is about lifestyle.**

be willing to accept the possibility of reducing spending later in retirement if investment returns are less than expected so that they can spend more in their 60s and 70s. Just as importantly, retirees should be given the freedom to spend more if investments perform well, which allows them to upgrade their lifestyle or give to others as a living legacy.

Using an approach that simulates lifestyles over time and acknowledges a retiree's ability to make modest spending adjustments, we can provide individuals with more insightful information to make choices that best match their preferences.





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