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DON'T DROP THE BATON

Sequence Risk and the Decumulation Dilemma

By Rene Martel, FSA, and Avi Sharon, PhD



INVESTMENTS & WEALTH INSTITUTE®

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Passing the baton in a relay race is a moment of high drama and consequence. A smooth handoff may propel a slower team to victory; a fumbled one may doom a swifter team's chances. We think the baton handoff is a useful analogy for understanding the key challenges advisors and clients face in the years before—but especially just after—retirement. Just as in a relay race, in retirement the transition from saving (accumulation) to spending (decumulation) is critical.

Key challenges to the retirement handoff include:

1. New and sudden headwinds to growth caused by shifting the source of spending from the saver's salary to the retiree's accumulated savings (which is the defining characteristic of a decumulation portfolio).
2. The spending portfolio's increased vulnerability to market drawdowns, particularly deep declines, especially during the years just following the transition (i.e., sequence risk).
3. The susceptibility of a risk-averse retiree to erratic decisions in the wake of market declines (e.g., a sudden move to cash, particularly in the early years) that may crystallize portfolio losses and jeopardize recovery, severely limiting the longevity of retirement assets.

Any of these risks could present substantial impediments to a successful retirement; experiencing all three

would be equivalent to dropping the baton outright.

In this article we explore these issues and develop a framework that seeks to address and better manage the challenges surrounding the critical transition to retirement and beyond. In the end, we recommend a goals-based approach that may be as intuitive to clients as it is scalable for advisor practices.

NEWFOUND PORTFOLIO FRAGILITY: THE GRAVITATIONAL TORPOR OF SPENDING

The transition to retirement is fraught with change. Among the most difficult and consequential changes is the cessation of one's regular salary. For many it may be the most direct and unsettling of retirement's realities. The loss of a paycheck is hard on the retiree and it utterly transforms the perceived and actual fragility of the portfolio.

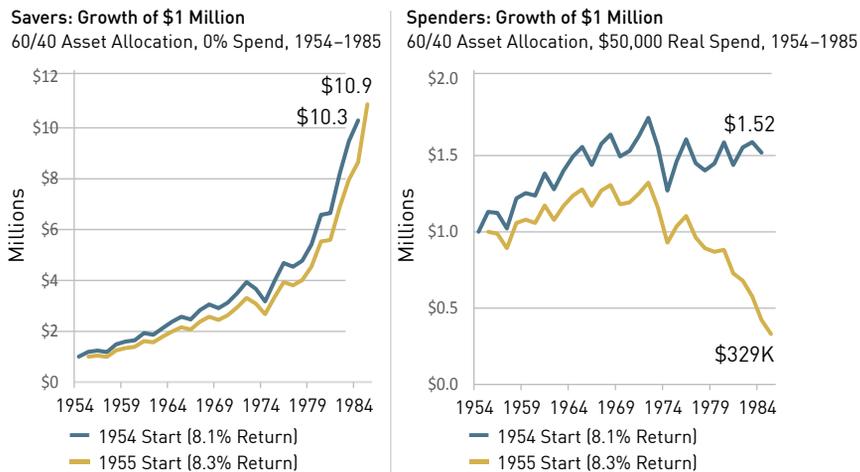
With the loss of a recurring outside source of income and the resulting headwinds to the growth prospects of a portfolio now burdened with the weight of regular spending, the portfolio's vulnerability increases. This is one reason retirees experience a measurable shift in risk tolerance, typically becoming more risk averse than their previous selves as accumulators. (It's also one of the reasons many retirees opt to claim Social Security at the earliest moment possible, at age 62, foregoing the far higher benefits afforded to those who delay claiming until later; see Shu et al.

2014, Behagel and Blau 2010, and Hopkins 2018.)

The most important objective for accumulators is to achieve as much portfolio growth as their risk tolerance will allow. This should enable them to withdraw from the largest possible nest egg once retirement begins. Essentially, the task is to align a retiree's risk-and-return objectives with a preferred mix of bonds and equities. The calculus is simple: The portfolio with higher annualized returns over time will result in the largest possible retirement portfolio, all else being equal.

Consider two savers in two different market environments, starting just a year apart. One begins in 1954 with \$1 million allocated 60 percent to equities and 40 percent to bonds; the saver holds it for 30 years, achieving an average annualized return of 8.1 percent. The other invests the same amount, with the same allocation, but begins a year later, in 1955; the saver experiences average annual returns of 8.3 percent. The results are fairly unsurprising: The ending value for the 1954 accumulator is \$10.3 million versus \$10.9 million for the one who starts in 1955, thanks to moderately higher annualized returns (see figure 1).

However, there's a stark difference when it comes to decumulation: Once the gravitational burden of spending afflicts a portfolio (at a rate of \$50,000 increased annually with inflation), simple annualized returns no longer

Figure
1**WORLDS APART: SAVERS AND SPENDERS EXPERIENCE DIFFERENT PATHS**

withdrawals exacerbate market losses (in essence, locking them in), impede portfolio growth, and slow recovery. In extreme cases, severe market declines may erode principal so much that the portfolio may never recover. Meanwhile, the higher and more consistent the spending, the greater the erosion the portfolio suffers, and the stronger the headwinds for recovery become (especially in years following significant declines). This phenomenon goes a long way toward explaining retirees' reduced tolerance for risk. In fact, those in or near retirement appear to have a form of "hyper risk aversion," weighing losses as much as 10 times more heavily than gains; see Johnson (2010); Taylor et al. (2018).

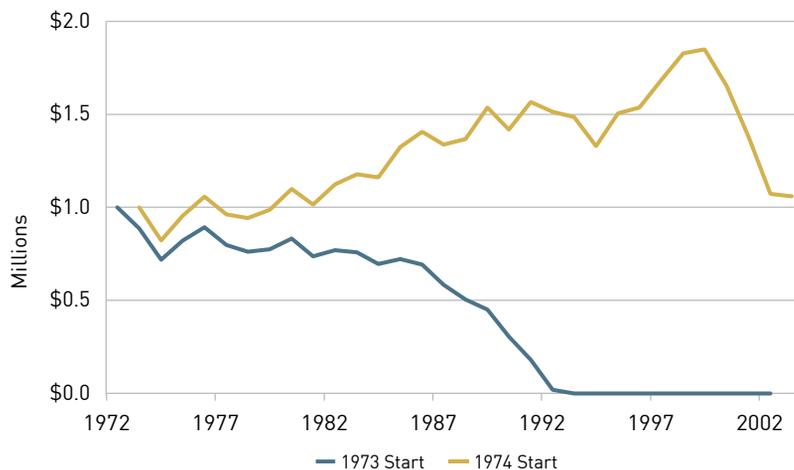
THE DANGERS OF AN UNTIMELY RETIREMENT: QUANTIFYING SEQUENCE RISK

Market meltdowns are always unsettling. But for those transitioning to retirement, the timing or sequence of the market's returns can be downright devastating. Shifting the start date of one's retirement by just a single year can make or break success. As figure 2 shows, identical investors, retiring 12 months apart (January 1, 1973 and January 1, 1974) would have had starkly different experiences during retirement—the first one's assets nearly doubling over the subsequent 30-year period, the other one's running out completely after just 23 years. Much of the difference was due to the 1973 retiree's unfortunate timing, leading to a sizable loss just coming out of the blocks.¹

Sequence risk can be particularly troubling when it occurs early in the handoff from saving to spending. Indeed, a major market downturn at the very beginning of one's retirement journey is among the most potentially destructive scenarios for investors. At the start, the impact can appear punishing in its own right. But the more painful consequences often come many years later, as the portfolio struggles to regain lost ground and its longevity declines faster than the retiree's own.

Figure
2**A YEAR CAN MAKE ALL THE DIFFERENCE**

60/40 Asset Allocation, \$50,000 Real Spend, 1972–2003



guarantee an optimal outcome. The portfolio with higher growth over the full 30-year period ends with \$329,000. Yet the ending value of the investor who retired in 1954, despite experiencing a lower return over the 30-year period, ends with a portfolio more than four times the size, at \$1.52 million. It's as if the decumulation portfolio operates

in a different physical universe, with altered laws of gravity and inertia.

For a portfolio in decumulation, success is a function of both higher annualized returns and the timing of those returns, especially losses. The reason is that regular withdrawals are taken from the portfolio to support spending. These

In the analysis below, we quantify the role timing plays in sequence risk. In short, getting hit with a big market loss early in retirement is far more damaging to long-term wealth than if the sequencing of the loss comes later in the journey. Let's look at this through two prisms: first, the impact that a meaningful and early 30-percent crash in equities has on the potential longevity of a 30-year retirement; then, its variable effect on portfolio resiliency—how many years it can sustain retiree cash flows before exhaustion—depending on when the crash occurs.

If we look at an early loss of 30 percent over a long retirement horizon, a stark reality emerges: The likelihood that the portfolio will survive the full journey drops significantly, illustrating the pernicious longer-term impact of sequence-of-returns risk. Simply put, if the starting \$1-million portfolio experiences a 30-percent plunge in equities anytime in the first seven years of retirement, the portfolio would be utterly exhausted before 30 years had elapsed. In fact, it would not even make it past 25 years (see figure 3, left).

It's also important to weigh the varying damage that any market decline may have on the portfolio's resiliency, because the consequences of sequence risk diminish the later it happens along the journey. Figure 3 (right) shows that if a 30-percent loss occurs in the first year of retirement the retiree will run out of funds by year 20; if the market drop occurs later in the handover, say in year six, the portfolio would make it to year 24. In short, the earlier a decumulating portfolio faces a substantial decline in equity markets, the more long-term damage is done.

DROPPING THE BATON: MISBEHAVIOR CRYSTALLIZES LOSSES

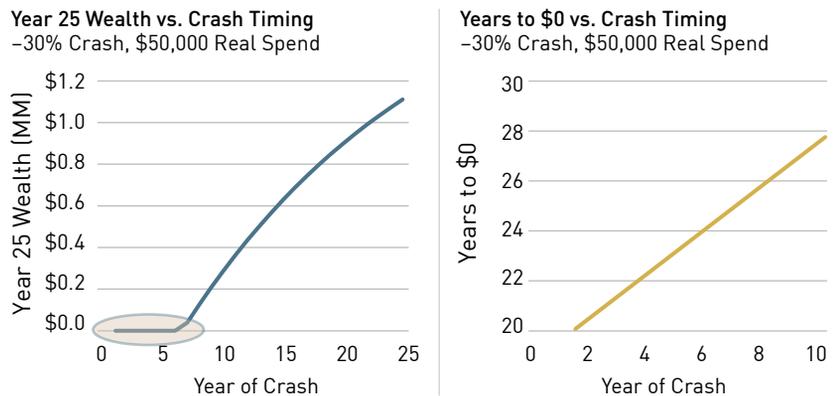
We've seen that catastrophic market losses may dig a deep hole early in retirement, and persistent spending from the decumulation

portfolio can delay or preempt recovery. The third—and arguably the greatest—risk associated with a downturn early in retirement is more behavioral in nature. An errant move to cash, typically at the worst point amid the decline, crystallizes the loss and threatens the success of the retirement journey altogether. It's the equivalent of dropping the baton, resulting in the loss of precious time and leaving little chance to catch up.

Figure 4 illustrates how behavioral pitfalls in the wake of a major downturn can undermine long-term portfolio growth. Despite a 51-percent drop in the stock market from October 2007 to March 2009, the portfolio would have recovered fully by 2013—but only if the investor had the means and foresight to leave it untouched (the blue line). The magenta line tracks the value of the portfolio of a hypothetical investor who overreacts to the 2007-2009 market shocks in typical fashion by

Figure 3

THE EARLIER THE CRASH, THE DEEPER (AND LONGER) THE PAIN

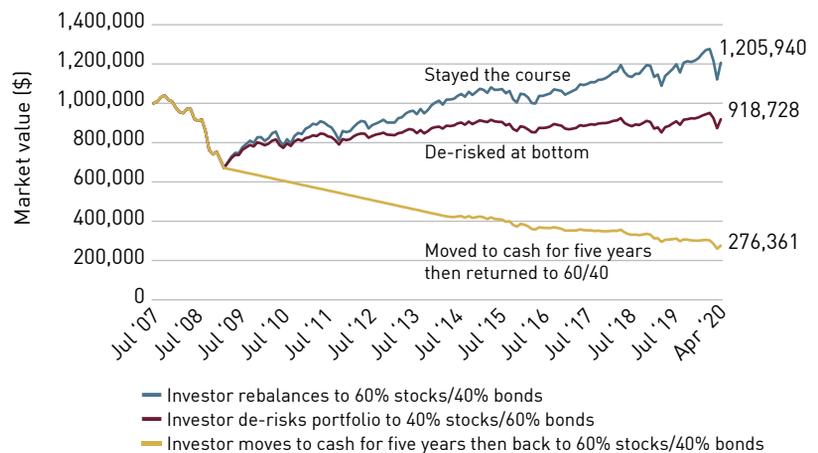


Hypothetical example for illustrative purposes only. Figure is not indicative of the past or future performance of any PIMCO product.

Source: Bloomberg, Global Financial Data, and PIMCO

Figure 4

RUNNING FOR THE EXITS MAY BACKFIRE



As of April 30, 2020. Stocks are represented by the total return of the S&P 500 Index; bonds are represented by the total return of the Bloomberg Barclays US Aggregate Index; cash is represented by the total return of the ICE BofAML 3M T bill, with allocations rebalanced annually. All portfolios incur monthly withdrawals that correspond to an annual amount of \$50,000. In scenarios where investors de-risked their portfolio, we assumed they did so near the trough of the U.S. equity market (February 2009). Performance does not reflect the deduction of the fees and costs of an investment product. If these fees and charges were reflected performance would be lower. Figure is provided for illustrative purposes only and is not indicative of the past or future performance of any PIMCO product.

de-risking the portfolio to emphasize bonds (60 percent) instead of stocks (40 percent). Some investors may even seek a presumed safe haven and run entirely to cash in an effort to hide from further market erosion, only returning to their long-term plan years later after markets have recovered (the gold line). Both paths tend to crystallize the original loss and dig a deeper hole, making recovery harder or even impossible. These behavioral tendencies can have drastic negative wealth implications.

PLANNING FOR A SMOOTH HANDOFF: DEDICATING SPECIFIC ASSETS TO SPECIFIC GOALS

Investor and portfolio vulnerabilities during the relay-like shift from saving to spending are varied and stubborn. But a number of coincident themes inform this transitional period:

- the loss of a recurring paycheck;
- the need to replace regular cash flows without unduly slowing portfolio growth;
- increased risk aversion among retirees;
- early (and suboptimal) claiming of Social Security benefits;
- heightened portfolio vulnerability to downside risk;

- greater susceptibility among risk-intolerant retirees to bail out in down markets;
- and an all-embracing challenge: the asymmetric damage wrought upon the decumulation portfolio, with respect to each of these vulnerabilities, particularly in the earliest years of retirement, just as the baton is being passed.

Any holistic retirement framework—and certainly one focused on the dangers of sequence risk at the start of retirement—should at least attempt to address these fundamental issues.

We take inspiration from goals-based investing, which has emerged as a dominant paradigm for the advice industry and specifically for retirement planning. It provides an intuitive behavioral framework for clients so they can map out their retirements in ways that may stray from, but do not contravene, more traditional approaches to financial planning. It recognizes that individuals are far more comfortable and articulate in defining their goals, as well as the probabilities of reaching them, than they are at estimating their risk tolerance or even understanding risk as it's usually

defined, in terms of the volatility of returns. Indeed, the greater risk for goals-oriented planners is the nearly palpable risk of not achieving them.

Goals-based investing itself stems in part from the concept of mental accounting, defined in Thaler (1999) as “the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities.” From a behavioral point of view, the first and truest goal for a decumulator, the most fundamental account, is the one that ensures a high degree of certainty concerning the cash flows needed to support their lifestyle during the initial transition and throughout retirement. In effect it involves tying a particular category of assets to a specific type of liability. Mental accounting thus shifts the primary interest of the advisor from asset allocation and more toward asset dedication—assigning a dedicated pool of assets to deliver on a single, and in this case all-important, goal.

PAYCHECK REPLACEMENT: THE BEDROCK SOLUTION FOR THE DECUMULATION DILEMMA

The problem of spending is at the heart of the decumulation dilemma. The loss of one's paycheck (its reliability, amount, and timing) can be deeply unnerving to the individual, not to mention stubbornly damaging to the portfolio. The ability to deliver a high degree of certainty around near-term spending is arguably the most powerful antidote to the hypertrophy of risk aversion in retirees. Dedicating a source of assets, prior to retirement, specifically geared to replace the saver's previous paycheck, with the same regularity, reliability, and amount, would be like a return to the Edenic state of accumulation. In fact, achieving sufficient confidence in the regularity of the new “retirement paycheck” could set in motion a number of related benefits, including a recalibration of the retiree's risk tolerance—one that reduces sensitivity to mark-to-market volatility and lengthens the time horizon for evaluating the portfolio's success.

THIS TIME IS NO DIFFERENT

The latest bout of pandemic-related volatility provides a salient reminder of sequence risk and its associated misbehaviors to baby boomers now heading into retirement—about 10,000 a day and rising. It makes clear why crossing that threshold—similar to the baton handoff for the relay runner—is often the most vulnerable and challenging period to manage.

Imagine someone stepping into retirement at the beginning of 2020. Within just a few months of starting decumulation, the equity portfolio dropped approximately 30 percent from its

mid-February high-water mark through the end of March. During that period, flows to money market funds hit records for three consecutive weeks (\$260 billion in just the final week, ending March 27) as investors rushed to exit stocks for the presumed safe harbor of cash.* This herd-like rush to cash in the wake of a market downturn is nothing new; these behaviors are well-known to advisors. But for those on the cusp of the shift from accumulation to decumulation, they can have particularly long-reaching consequences.

* *Refinitiv Lipper*

Research has shown that retirees who have high confidence in meeting their near-term goals of consistent cash flows that support spending (through pensions or other forms of secure income) tend to be less vulnerable to market declines and less prone to the typical misbehaviors these declines tend to generate (Blanchett and Finke 2017).² Such confidence could help retirees better tolerate recurring market volatility, stick to their long-term plans, and even allow higher equity allocations in other parts of their overall portfolio.

Figure 5 TWO FUNDAMENTAL GOALS, TWO DEDICATED PORTFOLIOS



“Paycheck replacement”*



Growth

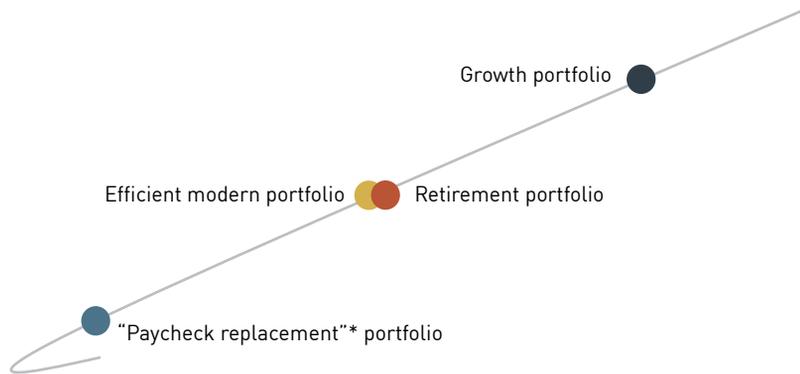
Source: PIMCO. For illustrative purposes only.

* “Paycheck replacement” refers to a low-risk bond portfolio, such as a bond ladder. Investment products contain risk and may lose value. There is no guarantee that an investment product will be successful in producing income. Investors should consult their investment professional prior to making an investment decision.

One way to potentially achieve such confidence would be to prefund the desired level of income replacement in retirement to serve as a buffer during the most vulnerable transition years. We recommend an initial amount during this period of about seven years, sufficient to carry retirees forward to at least age 70, when they can then claim maximum Social Security benefits. This could be accomplished with a dedicated bond portfolio generating cash flows (coupons and principal payments) expected to precisely match the retiree’s annual income needs. For example, this could be accomplished with a bond ladder or target maturity fund that seeks to deliver a predictable income stream over a number of years (absent defaults). Cash flows generated by the portfolio, including interest income and the return of principal as bonds mature at regular intervals, can emulate the paycheck that the new retiree had long relied on (see figure 5).

The second dedicated account or allocation is composed of long-horizon, higher-growth (and higher-risk) assets meant to rise or fall with the market, unencumbered by regular spending. Retirees would periodically call upon this account, with its longer time horizon and correspondingly higher risk, to replenish or extend the “paycheck portfolio,” address future (and often unforeseeable) spending needs, or leave more for loved ones or charity. By cordoning off and concentrating spending in the maturing bonds designated for

Figure 6 A MARRIAGE OF MENTAL ACCOUNTING AND MODERN PORTFOLIO THEORY



Source: PIMCO. For illustrative purposes only.

* “Paycheck replacement” refers to a low-risk bond portfolio, such as a bond ladder. Investment products contain risk and may lose value. There is no guarantee that an investment product will be successful in producing income. Investors should consult their investment professional prior to making an investment decision.

paycheck replacement, retirees remove some of the spending drag that would otherwise weigh on the equity portfolio, allowing this critical source of portfolio growth to enjoy the full benefit of any stock market recovery.

In aggregate, the two accounts constitute a traditional blend of stocks and bonds. The approach we describe merely dedicates the main components of most long-term portfolios—high-quality bonds and higher-growth-seeking assets—to distinct purposes. The two parts create a framework of mental accounts that, when taken together, would occupy the same position on the efficient frontier as a traditional optimal portfolio. But framed in this way, it may provide a more intuitive solution for

many investors who desire greater certainty around the timing and sources of future cash flows, without sacrificing the potential for growth (see figure 6).

FROM TARGET DATE TO TARGET SPEND: SCALING A SOLUTION ACROSS ADVISORY CLIENTS

All of the approaches we’ve discussed about managing sequence risk during the early years of retirement are consistent with traditional financial or retirement planning. We simply argue for the behavioral benefits of dedicating specific assets within a traditional allocation to explicit goals or accounts. For many investors the shift would be uneventful, but it could fundamentally reshape their understanding of their assets and how they work on their behalf.

Figure
7

WHAT RETIREES WANT



Comfort
Confidence



Flexibility
Control



Simplicity
Clarity

Consider another product type with clear behavioral characteristics that has become a mainstream approach to retirement saving. Many employees and savers have defaulted (or been defaulted) into target-date funds in their corporate retirement plans. These portfolios, with implicit embedded advice, can be ideal for accumulators: They help “glide” savings through a balanced allocation that seeks to grow a portfolio in line with risk preferences, over time, to an optimal outcome at the portfolio’s target retirement date.

But once the saver arrives at the start of decumulation, the goal shifts, away from maximizing the nest egg, toward securing a high degree of confidence around the regularity of cash flows for spending and mitigating the potential impact from sequence risk. In this case the target is a spending goal, specific in its timing and amount, and ideally not dependent on (or drawing upon) the growth-minded equity portfolio. In the approach we outline, the retiree would commit a portion of current bond allocation to target maturity bond ladders (or low-volatility model portfolios that seek to approximate the risk-return trade-off of a bond ladder) to support spending during those transitional years of retirement and beyond. These targeted spending vehicles, maturing annually at par in an amount tied to one’s spending, essentially replace the lost paycheck, providing a dedicated and near-certain source of retirement cash flows.

CONDITIONS FOR A SUCCESSFUL HANDOFF

The baton-like handoff to retirement is as stressful as it is critical. Our retirement framework seeks to address common behavioral pitfalls by doing the following:

- replacing the paycheck with a surrogate source of reliable cash flows;
- concentrating spending in maturing bonds, leaving equities unencumbered to grow, less burdened by untimely withdrawals;
- moderating retiree risk aversion through a near-term buffer that seeks to deliver on the key goal of secure income to support spending;
- providing a cash-flow bridge to age 70, to encourage optimal Social Security claiming;
- reducing vulnerability to downside risk by shifting the retiree’s investment horizon to longer-term risks;
- instilling confidence in meeting the retiree’s spending needs over an initial five-to-seven year period, to assuage the knee-jerk inclination to seek safe havens in down markets.

We believe our Income to Outcome™ framework is one that advisors could implement easily, one that is focused explicitly on sequence risk at the start of retirement and decumulation over time. An advisory practice could potentially frame, operationalize, and largely automate a client’s retirement investment plan, providing a clear and easily understood setting for regular discussion and easy adjustment. For clients,

the hope is that this framework would deliver key behavioral guardrails that instill confidence, a sense of control, and comfort—all of which could help enable a smooth passage of the baton as clients move from saving to spending (see figure 7).

Financial peace of mind. The knowledge that, no matter their level of savings or what the markets may bring, they are less likely to run out of money to support their lifestyle.

Control of one’s assets. The ability to access all of their wealth whenever they see fit and adjust their plans if circumstances or objectives change—rather than cede ownership or administration of their assets, which could limit flexibility and the potential for future returns.

Easy implementation. A decumulation strategy that is intuitive, simple to implement and adhere to. ●

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ENDNOTES

1. The January 1, 1973, retiree suffers a two-year loss in his 60/40 portfolio of approximately 20 percent versus the 1974 retiree, who over his first two years experiences a gain of about 10 percent.
2. See also Dalbar QUAI-VA. 2019. One public source for the QAIB study as it pertains to risk mitigation in context of variable annuities can be found at https://www.myirionline.org/docs/default-source/default-document-library/iri_insight_summer2019.pdf?sfvrsn=0.

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