Beyond Asset Allocation: Three Pillars of a Robust Retirement

By Josh Davis, PhD, and Sean Klein, PhD
Beyond Asset Allocation
THREE PILLARS OF A ROBUST RETIREMENT
By Josh Davis, PhD, and Sean Klein, PhD

Despite the heavy focus it receives in the financial industry, asset allocation does not typically have the biggest impact on outcomes in retirement. In general, additional investment risk is associated with a modestly higher chance of running out of money early in retirement. Investors hope to offset that risk with higher overall portfolio returns, which may be relied upon to sustain spending later in life. For retirees, though, this familiar investment relationship is distorted by taking distributions and spending down the portfolio.

Perhaps the greatest dilemma in retirement planning is that the sequence of portfolio returns can mean the difference between success and failure. Figure 1 shows the difference a single bad year can make, depending on whether it occurs early or late in retirement. Consider an individual who retires in 1995 with $1 million, spends $70,000 per year (adjusted for inflation), and invests in a high-risk asset allocation that allocates 75 percent to equities and only 25 percent to bonds, shown by the dark blue line in figure 1.

Because of the stellar performance of the stock market over that 20-year time horizon, this retiree was able to distribute enough money to support a chosen lifestyle and to end with more than $2 million, more than double initial wealth. The teal line presents an alternative hypothetical scenario in which the 1995 and 2008 returns are exchanged. This reveals something subtle and telling: Retirees facing the same overall stream of 1995–2015 portfolio returns, but with a more adverse initial experience, would essentially deplete their portfolios by the end of 2015.

This underlines the fundamental difference between investors in the accumulation or saving phase and those in the decumulation or spending phase, when the portfolio becomes the sole or primary source of spending. In retirement, the portfolio is far more vulnerable, exposed now to the impact of both market shocks and consistent spending, and the size and timing of both. The earlier and deeper the market decline, the greater the damage. Withdrawals compound these early losses and cause the portfolio to shrink more quickly, so it may not recover when the good years arrive.

Unlike traditional portfolio problems, should the market sell off right at the start of retirement, you would want a lower risk allocation; but if the market remains strong, you would want a portfolio with more risk. If one only knew the future, it would be easy to construct an effective portfolio for retirement—a conclusion as obvious as it is unhelpful. Without assuming prophetic skill, it is difficult to evaluate an asset allocation on a stand-alone basis. Instead, we suggest that retirees focus on what we call “the three pillars of a robust retirement,” which comprise strategies that make retirement cash flows more predictable: a realistic and beneficial spending plan, increasing tax efficiency, and maximized Social Security benefits.

PILLAR 1: STICKING TO A REALISTIC, INFORMED SPENDING STRATEGY
Perhaps the most common benchmark in retirement planning is constant real spending. At the outset, an annual need is identified, and this amount is adjusted for inflation every year. Initial assets are depleted steadily, and the success or failure of this spending strategy depends mainly on the asset allocation, the performance of capital markets, and especially the sequence of returns.

Figure 1: ASSET ALLOCATION AND SEQUENCE OF RETURNS

Hypothetical example for illustrative purposes only. Source: Authors’ calculations and Jordà–Schularick Taylor (JST) Database as of 2020 (Jordà et al. 2019). Initial spending is set equal to 7 percent of initial assets and adjusted for inflation each year. Historical returns represent the period 1995–2015. Sequence of returns (SOR) represents the same returns from 1995–2015, exchanging the annual returns from 1995 and 2008. The percentage represents allocations to equities and the remainder in bonds. Returns and inflation data are from the JST database. Performance does not reflect the deduction of the fees and costs of an investment product.
The 4%-percent rule is a commonly cited example of this strategy. Bengen (1994) analyzes U.S. returns during 1926–1992 to justify a 4%-percent constant real spending rate. For example, a retiree with a $1-million portfolio would spend $40,000 for the first year, and then adjust for inflation thereafter. Although these rules are simple to convey and model, they suffer from several limitations when used in retirement planning.

It is easy to imagine large, unpredictable expenses related to health care, housing, or transportation that might significantly shift spending needs from year to year. Moreover, recent research suggests that one-quarter of retirees see annual spending change by more than 20 percent from year to year.2 Constant real spending behavior assumes constant future spending needs.

Further, constant real spending assumes that people do not adjust spending in response to new information. A very strong market, an unexpected inheritance, or other windfall should naturally increase one’s standard of living, and a market downturn should lead to a real spending decline to help preserve assets for future needs. This approach is incredibly effective, because small adjustments to spending can have a very large impact on asset longevity (Tharp 2016, 2019). Non-healthcare spending can be volatile, and it appears to vary with the economic cycle. Indeed, during the downturn of 2009–2010 households headed by individuals age 65 and older were saving nearly 10 percent of their income on average. Among these households, spending was highly procyclical. Relative to net income, total real spending was roughly 20 percent to 25 percent higher in 2017 and 2018 than it was immediately after the financial crisis.2

Finally, constant real spending assumes expenditures are the same at every age, but total retirement consumption typically resembles a smile rather than a flat line. Generally, it is highest at the outset, then falls off in the middle retirement years before rising again late in retirement, primarily due to healthcare expenses (Jones et al. 2018; Klein 2020). Excluding rising healthcare costs, real spending falls 2–3 percent per year after age 65 (Blanchett 2013; Banerjee 2015). Real discretionary spending is tilted toward early retirement when it is most likely to be enjoyed.

Accurately and realistically characterizing spending behavior creates a more comprehensive, more robust, and more realistic retirement plan.

A FLEXIBLE, INFORMED SPENDING STRATEGY

There are many ways that households manage annual spending in response to the economy, and representations can rapidly become complex. Although realistic spending behavior is a key component of retirement planning, perhaps the most important criterion is that any spending plan be simple. With this in mind, we consider a concrete example where the retiree selects an initial amount of spending, such as 4 percent of wealth. After the initial year, the retiree updates spending annually based on portfolio performance and current wealth.

- If the average portfolio returns are high and wealth is high, increase spending by the rate of inflation over the past year (maintain constant real spending from year to year).
- If the average portfolio returns are low or wealth is too low, simply spend the same this year as last year (maintain constant nominal spending from year to year).

This amount of flexibility appears conservative. In the financial crisis, real expenditures for households 65 years and older fell 3.5 percent.3 Obviously, more significant spending adjustments are possible (and likely) in different situations, though, as we shall see, even this strategy leads to considerable improvements. With this rule, initial real spending can be set with more confidence, and if cutbacks are required, they occur only in the future, only if necessary, and only in ways that can be relatively easy to implement. In this strategy, the first returns-based condition ties spending to portfolio performance and seeks to mitigate sequence-of-returns risk by limiting withdrawals after poor markets, particularly if they occur early in retirement. Here we propose a simple trigger linked to inflation—if the portfolio returns beat inflation, then you index annual spending. The second, wealth-based condition seeks to ensure that the erosion rate of the retiree’s capital is not too rapid for the retiree’s goals and investment horizon. For simplicity, we propose this trigger is satisfied by comparing current wealth with a straight-line decumulation from the initial value and the target wealth over the investment horizon. If nominal wealth falls below this line, we do not index spending to inflation until the situation is restored.4 This simply and explicitly targets the speed of the drawdown.

If initial withdrawals are too high and assets erode too quickly to support the retiree’s goals, real spending is reduced. Such a spending approach is intuitive and easy to implement in an investment portfolio. For example, consider a retiree who will draw annual spending over the next seven years exclusively from a conservative bond allocation in the portfolio, leaving the remainder of the portfolio in a more growth-oriented allocation to support future spending or legacy planning. If equity markets underperform, the retiree simply spends down a year of bonds as designed and still maintains (absent defaults) nominal spending for the current year and the remaining six-year term. In strong years, gains in the growth-oriented portion of the portfolio can be rebalanced to increase the level and term of spending delivered by the conservative bond portfolio. That is, spending and rebalancing can interact to turn sequence-of-returns risk on its head. Instead of systematic withdrawals that

© 2021 Investments & Wealth Institute. Reprinted with permission. All rights reserved.
lock in portfolio losses in down markets, this strategy can opportunistically rebalance the portfolio to lock in gains.

This simple change to spending behavior can greatly impact the success of one’s retirement. Consider again the sequence-of-returns example from figure 1, where we have a retiree with a 20-year horizon and a constant 75-percent/25-percent allocation to stocks and bonds. With the adverse sequence of returns, shown as “SOR” in figure 2, a retiree using this simple spending strategy would retain more than $750,000 in assets after 20 years. This is not by sacrificing on the upside; a retiree with the more advantageous historical returns would follow an essentially identical wealth trajectory.

**PILLAR 2: TAX EFFICIENCY**

Tax policy in the United States interacts with retirement planning in several ways, and tax-aware portfolio optimization can look very different from naive recommendations (Klein and Sapra 2020). To pick just a single example, most individuals save for retirement in a qualified account such as an individual retirement account (IRA) or a 401(k). These accounts allow contributions with pretax dollars, which then compound tax-free until they are withdrawn. Tax-free compounding can increase the rate of return on investments. These benefits increase with the rate of return, the tax rate, and the time horizon.

However, these benefits come with differences in taxation upon eventual withdrawal. Consider the case of a retiree with both a brokerage account and an IRA. The brokerage account can be tapped to provide income at a relatively low tax rate, while the full amount of withdrawals from the IRA are subject to income taxes. The retiree would maximize the value of any tax-free compounding by delaying withdrawal from the IRA, instead financing early retirement spending from the brokerage account. Only once that account is depleted, the retiree would draw from tax-advantaged retirement savings. Delaying withdrawals from the IRA in this way would lead to relatively low taxable income early in retirement and relatively high taxable income later. When combined with a progressive tax code, the net benefits of delaying withdrawal to maximize tax-free compounding are no longer clear. That is, if maximizing tax-free compounding generates 10-percent higher asset balances but 12-percent higher average tax rates, it is not worthwhile.

This issue is relevant for many retirees in part because of the way Social Security benefits are taxed. The portion of Social Security income subject to taxes is a function of the retiree’s income from other sources. One extra dollar of taxable income, such as a withdrawal from a 401(k) or IRA, will be taxed as ordinary income and will increase the amount of Social Security benefits that are taxed as ordinary income. The treatment of Social Security can rapidly increase the effective tax burden on households (Reichenstein and Meyer 2018).

Consider the hypothetical example shown in figure 3, where a single retiree older than age 65 is collecting $25,000 in annual Social Security benefits and taking the standard deduction. The retiree’s tax rate on every additional dollar of taxable income is high—sometimes quite high—because of the interaction between Social Security and taxable income. Later in retirement, if this hypothetical retiree fully depletes the brokerage account, and needs to withdraw $40,000 from an IRA, the retiree’s taxable income, including $25,000 of Social Security benefits, would be $65,000. This amount of income would have an average federal tax rate of 9.25 percent and an effective marginal rate of 41 percent. If this retiree instead had drawn earlier from the IRA and retained some of the brokerage account, this retiree would have more options. For example, by withdrawing $30,000 of principal from the brokerage account and $10,000 from the IRA, this retiree would enjoy a taxable income of only $35,000 ($10,000 from the IRA and $25,000 from Social Security) and a federal tax burden of zero.

For retirees collecting Social Security, tax rates can be high even at otherwise moderate levels of income. With very high and very volatile marginal tax rates, post-tax account balances provide some much-needed flexibility. Post-tax income and will increase the amount of Social Security benefits that are taxed as ordinary income. The treatment of Social Security can rapidly increase the effective tax burden on households (Reichenstein and Meyer 2018).

Consider the hypothetical example shown in figure 3, where a single retiree older than age 65 is collecting $25,000 in annual Social Security benefits and taking the standard deduction. The retiree’s tax rate on every additional dollar of taxable income is high—sometimes quite high—because of the interaction between Social Security and taxable income. Later in retirement, if this hypothetical retiree fully depletes the brokerage account, and needs to withdraw $40,000 from an IRA, the retiree’s taxable income, including $25,000 of Social Security benefits, would be $65,000. This amount of income would have an average federal tax rate of 9.25 percent and an effective marginal rate of 41 percent. If this retiree instead had drawn earlier from the IRA and retained some of the brokerage account, this retiree would have more options. For example, by withdrawing $30,000 of principal from the brokerage account and $10,000 from the IRA, this retiree would enjoy a taxable income of only $35,000 ($10,000 from the IRA and $25,000 from Social Security) and a federal tax burden of zero.

For retirees collecting Social Security, tax rates can be high even at otherwise moderate levels of income. With very high and very volatile marginal tax rates, post-tax account balances provide some much-needed flexibility. Post-tax income and will increase the amount of Social Security benefits that are taxed as ordinary income. The treatment of Social Security can rapidly increase the effective tax burden on households (Reichenstein and Meyer 2018).
account balances allow retirees to control how much they draw from retirement accounts and better manage future tax burdens. Rather than delay withdrawals from tax-deferred accounts, investors may be better off drawing more evenly from both taxable and tax-deferred accounts to produce a stream of more moderate taxable income with a more moderate tax burden.

**PILLAR 3: OPTIMIZING SOCIAL SECURITY**

Social Security is a key component of retirement spending in the United States. This program provides a guaranteed source of real income for life that helps retirees address both inflation and longevity risk. Although benefits vary across households, the average household receives payments roughly equal to 40 percent of its total pre-retirement income (Poterba 2014).

Monthly Social Security benefits are based on several factors, including historical salaries, years in the labor force, and the age at which benefits are first claimed. Benefits claimed at younger ages are comparatively small, and benefits claimed later are relatively larger. Importantly, the rates of return implicit in this decision are set by government statute, not by capital markets. This offers the potential for positive returns and reliable retirement income that does not depend on the capital markets.

Given the low real yields currently available for Treasury Inflation-Protected Securities (TIPS), deferring Social Security benefits can be a sensible choice for many households. Consider the trade-off depicted in figure 4 for a hypothetical individual born after 1960 who expects to receive $10,000 in annual Social Security benefits if claimed at the full retirement age of 67. By claiming benefits at age 62, this individual would receive only 70 percent of the full benefit amount for life. By deferring benefits until age 70, this individual would receive 124 percent of the full benefit amount for life. Relative to claiming at age 62, claiming at age 67 or age 70 would amount to nearly 20 or 30 percent more in benefits respectively by age 92. Without discounting, the total benefits from claiming at the full retirement age exceed those from claiming at 62 after 17 years (age 79), and the total benefits from claiming at 70 exceed those from claiming at 62 after age 83. At current near-zero interest rates, the present value of these payments will change only slightly (Sapra and Moore 2019).

Deferring Social Security benefits also helps alleviate one of retirees’ biggest concerns—outliving one’s savings. Social Security benefits are among the most effective tools retirees can use to mitigate longevity risk.

It is somewhat surprising, then, that so few choose deferral. Nearly half of retirees claim benefits as soon as they are available, and fewer than 5 percent fully defer benefits until age 70 (Munnell and Chen 2015). There are a variety of explanations for this phenomenon as well as some evidence that this behavior has started to evolve as real yields have fallen.

Barring specific circumstances that may favor early claiming, deferring Social Security can allow for potentially larger, safer, inflation-indexed lifetime benefits. Of course, higher-than-anticipated expenses early in retirement or worse-than-anticipated asset markets may favor earlier claiming of benefits. Here
though, is a place where asset allocation can help. Portfolios should be designed to limit the volatility in early retirement income to support Social Security deferral and its higher lifetime real income. For example, this could be accomplished with a dedicated bond portfolio providing expected cash flows (coupons and principal payments) that match the retiree’s income needs. Assets can be structured through a laddering strategy, in which bonds of sequential maturities are purchased in such a way as to generate a fixed series of cash flows. As table 1 shows, a bond ladder can be designed to replace government-guaranteed Social Security benefits with government-guaranteed Treasury bond payments of equal size, allowing the retiree to pursue the higher implicit rate of return provided by Social Security deferral.

To construct a bond ladder, we invest in a sequence of maturing bonds such that the annual payments of principal plus interest equal our target value, which in this case is $25,000. To do this, we work backward from the investment horizon. First, we calculate the amount of interest that will be generated using the current yield curve. We then move back one year and repeat this calculation, including the interest payments that will be received from our investment in longer-maturity bonds. By repeating this process, we eventually recover a series of investments designed to generate a specific set of cash flows.

COMBINING THE THREE PILLARS
Asset allocation generally is most effective when it supports a holistic retirement plan. A portfolio that supports realistic spending also can generate tax efficiencies. And if the portfolio facilitates Social Security deferral, these components can lead to material improvements in many economic environments. For example, Social Security payments are indexed to inflation each year. As those benefits become larger (such as when Social Security benefits are deferred), occasionally not indexing remaining spending to inflation has a smaller real impact on total spending. Therefore, Social Security’s ability to soften the impact of a down market increases after a market sell-off. Similarly, spending and taxes also work together. Because tax brackets generally are indexed to inflation, a gradual reduction in real spending over time reduces the tax burden. This benefit is the greatest when it is also the most helpful—real spending falls when asset markets are down, wealth is low, and higher after-tax income is most valuable.

Table 2 shows a comparison of two retirement strategies built on the three pillars. First, we consider a typical strategy, which claims Social Security immediately upon retirement, plans on constant real after-tax annual spending, and maximizes tax-free compounding by spending down taxable assets first. We compare this with a more robust strategy that defers Social Security using a U.S. Treasury bond ladder, implements the flexible spending strategy, and spreads withdrawals evenly across taxable and tax-deferred accounts.

We consider a hypothetical 62-year-old who has just retired and has a Social Security benefit at full retirement age of $25,000 per year. This retiree has $1 million in invested assets split evenly between two accounts: $500,000 in a taxable brokerage account and $500,000 in a tax-deferred regular IRA. Invested wealth is allocated to a 50/50 combination of stocks and bonds, rebalanced annually.

We evaluate the investment performance in a simulation. Stock returns, bond returns, and inflation are determined jointly over the course of retirement, and initial yield curves are set to reflect late February 2020 values. Full capital market assumptions governing the simulation are detailed in the appendix. Finally, federal taxes are estimated based on the 2019 Internal Revenue Service schedule for a single individual taking the standard and old-age deductions, if applicable. Tax brackets are indexed to the simulated inflation values.

Figure 5 shows the probability that assets will survive until the indicated...
age for two different levels of initial after-tax spending (including Social Security benefits) for each strategy: $60,000 per year and $40,000 per year.

With the typical strategy, $60,000 in spending is not feasible. Fewer than half of our simulations can last until age 85 and only 20 percent last until age 95. It is not until we reduce after-tax spending to $40,000 that this typical plan can finance a retirement until age 95 with more than 95-percent probability. The robust strategy fares better. A retiree following the robust strategy would be able to set initial spending at $60,000 and see the same 95-percent success rate as one following the typical strategy with only $40,000 of spending. Reducing spending and following the robust strategy increases the success rates such that no simulated paths in our analysis run out of money before age 95.

The three pillars combine to allow for higher after-tax spending, not just at the start of retirement but throughout the retiree’s life. Figure 6 shows the distribution of real after-tax spending by age for two strategies with nearly identical success curves: the robust approach, following the three pillars and beginning at $60,000 of after-tax spending; and the typical constant spending strategy with $40,000 of after-tax spending.

Relative to typical strategies, this hypothetical retiree who implements the robust strategy can set initial spending 50-percent higher early in retirement, enjoy substantially more spending at every age, and still see the same retirement success rates. Over the entire horizon, total real consumption is nearly 30 percent higher, and pro-cyclical spending adjustments, lower tax burden, and increased Social Security benefits combine to allow greater after-tax spending at every age in almost any market environment. Lifetime spending at the 10th percentile is still 20-percent higher with the robust strategy than with the typical approach. Again, this is not because of any differences in the

---

**Figure 5**

**MATERIAL IMPROVEMENTS IN SUCCESS**

![Graph showing success rates for different strategies](https://example.com/graph5)

**Figure 6**

**PERSISTENT, HIGHER SUSTAINABLE SPENDING**

![Graph showing average real after-tax spending by age](https://example.com/graph6)

**Figure 7**

**A HOLISTIC STRATEGY IS KEY**

![Graph showing success rates for different strategies](https://example.com/graph7)
investments—each strategy has identical asset allocations over the entire horizon, with the same market returns.

Much of the improvement comes from the interaction of the three strategies. Figure 7 shows similar success curves with the same $60,000 of initial real spending and two additional strategies—the first with flexible spending only, the second with just flexible spending and tax-efficient withdrawals.

Relative to the typical strategy, simply implementing the flexible spending rule can improve success rates and extend the life of assets. With the spending rule alone, our retiree’s assets now have a one out of two chance of lasting until age 95. Although this is higher than for the typical strategy, these odds aren’t comforting. Adding a second pillar helps. If more tax-friendly withdrawals are combined with the spending strategy, success rates increase to 57 percent. But the largest gains are found when the three pillars are combined. A strategy based on the three pillars increases success rates and, in this case, allows for substantially higher after-tax spending at every age in almost every market environment.

The benefits of the three pillars are particularly stark compared with asset allocation alone. In general, higher-risk portfolios lower medium-term success rates because of the increased risk of large negative returns, but the higher expected returns tend to increase the longevity of more risky assets over longer horizons. Investors will either fail quickly or rely on expected returns from the risky assets to sustain them in old age. These are very different outcomes and, with a typical strategy, which one an investor will experience is almost entirely a function of the market’s returns during the first few years of retirement. Figure 8 shows success rates under typical and robust strategies with $60,000 in initial after-tax spending and various asset allocations.

In contrast, a strategy that incorporates slight flexibility in future spending, is aware of tax consequences, and plans to maximize Social Security benefits may result in higher success rates and after-tax spending for every asset allocation at every age.

**CONCLUSION**

Much attention is paid to the role of assets and asset allocation in retirement planning. Although future returns obviously have an impact, sequence of returns plays an outsized role. Asset allocation is not the solution to this problem, because portfolios are constructed with respect to distributions of returns and correlations, not to the precise order of returns. Instead, we advocate a focus on three pillars of retirement planning that can reliably improve outcomes. These three pillars are realistic flexible spending strategies, tax-aware withdrawal behavior, and maximizing Social Security benefits.

Though each pillar can improve outcomes on its own, the combined effect, particularly in downside scenarios, can be substantial. Retirees’ assets may last longer and retirees may enjoy substantially higher after-tax spending, particularly early in retirement. In our simulation, we estimate that, relative to a typical retirement strategy, a hypothetical 62-year-old retiree with moderate income could enjoy 50-percent higher initial and 30-percent higher lifetime spending with a strategy designed around the three pillars, with the same investment portfolio.

What considerations should retirees make in managing their investments? Individuals must discuss specific circumstances with their advisors. In general, however, portfolio construction should complement the three pillars. Assets should be allocated to support realistic future spending, spending plans should be tax-aware, and allocation should facilitate flexibility in a retiree’s Social Security claim strategy. Concentrating spending in a dedicated bond allocation early in retirement may help the retiree defer, and thus increase, Social Security benefits without forgoing a regular, government-guaranteed cash flow. As the retiree ages, taxable and tax-deferred accounts need liquidity and shorter-term assets to support short-term needs. Finally, rolling medium-term bond ladders can support the spending strategy. If markets underperform, the ladder spends down a year, but still protects (absent defaults) nominal spending for its remaining term. In strong years, the portfolio grows and nominal spending increases, so the ladder needs to grow to protect the new level of spending. In these years, the growth-oriented portion of the portfolio grows and then is sold down to increase the payments and terms of the bond.
ladder to protect greater future spending. That is, spending and rebalancing interact to turn sequence-of-returns risk on its head. Instead of systematic withdrawals that lock in portfolio losses in down markets, we seek to opportunistically rebalance the portfolio to lock in gains.

Table A1

<table>
<thead>
<tr>
<th>Stocks</th>
<th>Average</th>
<th>16.0%</th>
<th>1.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds</td>
<td>2.0%</td>
<td>4.0%</td>
<td>−0.36</td>
</tr>
<tr>
<td>Inflation</td>
<td>2.0%</td>
<td>1.5%</td>
<td>0.41</td>
</tr>
</tbody>
</table>

Table A2

<table>
<thead>
<tr>
<th>Taxable Income Up To</th>
<th>Ordinary Income Tax Rate</th>
<th>Capital Gains</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 9,700</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>$ 39,475</td>
<td>12%</td>
<td>15%</td>
</tr>
<tr>
<td>$ 84,200</td>
<td>22%</td>
<td>15%</td>
</tr>
<tr>
<td>$160,725</td>
<td>24%</td>
<td>15%</td>
</tr>
<tr>
<td>$204,100</td>
<td>32%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Inflation and investment returns are simulated as independent and identically distributed according to the process shown in table A1.

We consider the case of a 62-year-old retiree who has Social Security benefits at full retirement age of $25,000 per year as well as $500,000 in post-tax brokerage accounts and $500,000 in a pre-tax regular IRA. The robust strategy includes a laddered bond portfolio to replace deferred Social Security benefits. This portfolio is constructed from nominal bonds from the post-tax brokerage account and is priced with a two- and 10-year yield of 100 and 125 basis points, respectively.

Taxation

We assume our retiree is a single filer enjoying the standard deduction as well as the old-age deduction upon reaching age 65. IRA withdrawals and bond returns in the taxable brokerage account are taxed at ordinary income rates and equity returns in the brokerage account are taxed at capital gains rates, as shown in table A2.

ENDNOTES

1. Roy and Kim-Steiner (2019). These sorts of precautionary concerns are one explanation for why households tend to avoid spending down savings and instead spend primarily from Social Security, available pensions, dividends, and interest.
4. Tying the return trigger to inflation allows the wealth threshold trigger to be defined using nominal (and easy to calculate) values with similar effectiveness. There are many ways to implement such a requirement, with substantively similar results.
5. Including federally tax-exempt interest, such as municipal bonds.
6. Benefits also vary based on certain disabilities, spousal benefits, and spousal claiming strategies. This is a simplified hypothetical example; there are many ways to maximize one’s Social Security benefit.
7. This assumes that the details of the Social Security program do not change and that the U.S. government fulfills these obligations.
8. Although a Treasury bond ladder is the closest equivalent to a replacement for government-guaranteed Social Security income, retirees could choose to apply the same laddered bond allocation to bridge themselves to a later claiming strategy using a municipal bond or even an investment-grade corporate bond ladder to achieve either more tax-aware or higher-yielding outcomes in this portion of the allocation.
9. There are also operational benefits to managing spending and rolling bond ladders in this fashion. When returns are low and spending is not indexed, the bond ladder can simply spend down that year. Like spending, the investment portfolio would remain untouched in down markets. When returns are higher and spending is indexed to inflation, the portfolio can be rebalanced and the bond ladder can be reset to lock in the new, higher level of nominal spending.
10. Most bond ladders use either corporate or municipal bonds, but we look at Treasuries for simplicity.

REFERENCES


Continued on page 51 →


The models, scenarios and decisions included here are not based on any particular financial situation, or need, and are not intended to be, and should not be construed as a forecast, research, investment advice or a recommendation for any specific PIMCO or other strategy, product or service. Individuals should consult with their own financial advisors to determine the most appropriate allocations for their financial situation, including their investment objectives, time frame, risk tolerance, savings and other investments. The analysis contained in this paper is based on hypothetical modeling. Hypothetical performance results have many inherent limitations, some of which are described below. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular trading program or strategy. One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, hypothetical trading or modeling does not involve financial risk, and no hypothetical example can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or to adhere to a particular trading program in spite of trading losses, is material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the preparation of hypothetical performance results, all of which can adversely affect actual results. No guarantee is being made that the stated results will be achieved. Return assumptions are for illustrative purposes only and are not a prediction or a projection of return. Return assumption is an estimate of what investments may earn on average over the long term. Actual returns may be higher or lower than those shown and may vary substantially over shorter time periods. All investments contain risk and may lose value. Nothing contained herein should be considered legal or tax advice. Please consult your tax and/or legal counsel for specific tax or legal questions and concerns. There is no guarantee that these investment strategies will work under all market conditions or are appropriate for all investors and each investor should evaluate their ability to invest long-term, especially during periods of downturn in the market. Investors should consult their investment professional prior to making an investment decision. This material has been distributed for informational purposes only. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission. This article is published by INVESTMENTS & WEALTH INSTITUTE®, with the permission of PIMCO. © 2022, PIMCO. All rights reserved. OM022-0125-2007901