New Tools to Manage Longevity Risk

By Joe Tomlinson
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If you could guarantee yourself an inflation-protected stream of income for the rest of your life, would you take it? For many retirees, the answer is yes, and that is rightfully sparking new interest in deferred-income annuities (DIAs).

By combining a DIA with a TIPS ladder or more aggressive equity-centric investments, retirees can obtain inflation-protected lifetime income. But they will face important tradeoffs, as I will explain.

First, let's look at how a DIA works. Sometimes referred to as longevity insurance, DIAs involve the purchase of a delayed income stream that begins at an advanced age and continues for life. A typical example is a 65-year-old new retiree purchasing an income stream that begins at age 85. Such an approach is attractive because the individual can use just a small portion of retirement savings for the DIA, then apply the remainder of his or her savings toward systematic withdrawals until the DIA payments begin.

DIAs are much less expensive than annuities that begin payments immediately. For example, a 65-year-old female would pay about $310,000 for lifetime payments of $20,000 annually beginning immediately, compared to about $36,000 for the same income stream beginning 20 years hence. The cost is so much lower because only about half of those purchasing such a DIA will live to collect any income, and the insurer will have 20 years to invest the premium deposit before beginning payments.

Carriers that currently offer DIAs are MetLife, the Hartford, Symmetra, and New York Life. DIAs have been available for close to a decade, but they have not been widely popular. That may be changing, however, as retirement income management draws new attention. The government has provided additional support for both DIAs and annuities in general with the recent release of proposed regulations aiming to overcome impediments to providing lifetime income options in 401(k) plans.

When selecting a DIA, considerations include finding the best pricing, assessing insurer financial strength, choosing the number of years of deferral (or opting for flexible deferral), and deciding whether to pay extra for a refund feature. A more complex issue is how to manage your clients' investments during the deferral period until DIA payments begin.

At one extreme is a "safety-first" approach, which involves funding systematic withdrawals with laddered bonds (or TIPS), and at the other extreme is an aggressive strategy of investing heavily in stocks for their greater return potential. In the remainder of this article I'll show expected outcomes and associated risks for these two strategies, and discuss how the choice of strategy depends on a client's particular financial situation.

The systematic withdrawal baseline

I'll illustrate the alternative strategies using an example of a 65-year old female who has $500,000 of retirement savings and wants lifetime income of $20,000 per year, with annual increases for inflation. (Those familiar with research on retirement withdrawal strategies will recognize this goal as equivalent to applying the "4% rule.")

Before looking at DIAs, it is worth establishing a baseline by first examining a straightforward systematic-withdrawal approach. Bill Bengen did the original research demonstrating the viability of 4% inflation-adjusted withdrawals. He based his research on historical investment returns, and showed that portfolios invested at least 50% in stocks would have lasted at least 30 years under this withdrawal strategy. A note of caution, however: If you believe the future investment climate will not be as favorable as in the past, as seems quite possible, that calls into question the continued viability of the 4% rule.

For a more conservative forward-looking assessment, I ran Monte Carlo simulations using current interest rates and an assumption that stocks earn 5.5% more than bonds (based on a 2011 survey of economists and financial professionals). With this stock return assumption, the percentage of plan failures at 30 years rises to at least 30% under any stock/bond mix. If the goal is a 4% inflation-adjusted withdrawal rate, it's definitely worth considering alternative strategies, especially using DIAs.

Incorporating the DIA

The longevity protection of a DIA improves the success rate of a 4% withdrawal strategy. Unfortunately, there are no DIA products currently being marketed that adjust for actual inflation, but there are products that provide fixed annual step-ups in income. I've developed the following example using a 2.25% step-up as an inflation proxy, roughly equal to the TIPS/Treasury spread on 20-year bonds as of mid-February. This is an imperfect strategy, it should be noted, to the degree that step-ups run the risk of not matching actual inflation, which has averaged 3.1% over the last century.

For a cost of $62,515, this individual could purchase a DIA that provides income of $31,353 ($20,000 inflated by 2.25% per year for 20 years) beginning at age 85, with step-ups continuing each year thereafter. (This pricing is based on rates provided by Curtis Cloke at Thrive Income Distribution Systems, a company that sources DIAs and other annuity products from insurance carriers and provides customized retirement income plans for clients.)

If this individual wanted to take a super-safe approach to funding 20 years of interim withdrawals, she could use a TIPS ladder. I've assumed a real rate of -.25% after management expenses of .25% annually, which would require an up-front TIPS investment of $410,213. The combined investment in TIPS and the DIA would be $472,728, leaving

$27,272 to spare. So purchasing a deferred income annuity turns a risky systematic-withdrawal strategy into one that provides 100% assurance of guaranteed income for life. That is impressive peace of mind.

This TIPS/DIA strategy has been explored by a number of different researchers in the past few years, for example here.

A DIA is not the only way to obtain guaranteed lifetime income; another choice would be a single-premium immediate annuity (SPIA), and it's worth comparing costs. Based on rates from Income Solutions ® [1] which distributes annuities via Vanguard, a SPIA providing $20,000 of initial income with 2.25% annual step-ups would cost $390,787, a 17% savings versus the TIPS/DIA approach. However, the SPIA choice cedes control of most of the $500,000 of savings, in particular precluding bequests to heirs in the event of an early death. To get around the early death risk, an individual could opt for a cash-refund SPIA, which would pay out the difference, if any, between the annuity deposit and income payments received to the date-of-death. Adding the cash refund feature would raise the cost to $417,073, reducing the advantage to a 12% savings versus the TIPS/DIA strategy.

Step-up immediate annuities carry a greater risk of not matching actual inflation than the TIPS/DIA strategy, because the TIPS ladder provides an inflation match for the first 20 years. If an individual wanted a lifetime inflation hedge, the only way to go would be an inflation-adjusted SPIA. The cost of this product without a refund provision would be $450,195, and $507,898 for the cash-refund version, exceeding the $500,000 budget. So there would be an extra charge to obtain full inflation protection.

Getting more aggressive

Individuals who are able to tolerate some risk should consider DIA strategies with more aggressive investments than TIPS during the interim period. The following chart compares expected results for the TIPS strategy versus allocations that include stocks. The probability of failure refers to the likelihood of depleting savings before year 20, when the DIA payments begin; the expected amount of remaining savings at year 20 is also shown. The beginning value of savings is $437,849 ($500,000 minus the $62,515 cost of the DIA) and withdrawals are assumed to be $20,000 in the first year, increasing by an assumed inflation rate of 2.25% each year thereafter.

[1] To view these rates, you must be a Vanguard online customer or have a direct relationship with Income Solutions®

DIA with Different Asset Allocations				
Stock/Bond Mix	Expected Return (real)	Volatility	Probability of Failure	Expected Funds Yr 20 (today's $)
All TIPS	-0.25%	0.00%	0%	$25,941
35/65	1.68%	7.00%	12%	$123,408
65/35	3.33%	13.00%	18%	$208,005
100/0	5.25%	20.00%	23%	$284,414

As the proportion of stocks in the mix increases, the expected funds at year 20 also increase, reflecting the higher expected returns. However, because volatility increases, the probability of running out of money increases as well. The failure probabilities, even for stock allocations of approximately 50%, are much lower than the 30% -plus failure rates I've estimated for a 30-year systematic withdrawal strategy. With a DIA-based strategy, the failure risk is all in the first 20 years.

Conclusions

The "super-safe" approach using a TIPS/DIA combo provides an alternative to a step-up SPIA, but at a higher cost. This may be a good strategy for individuals who need to be assured of a base level of uninterrupted lifetime income, but desire more control and flexibility than a SPIA offers.

More aggressive asset allocation strategies combined with DIAs provide a means of protecting bequest values from longevity risk. For individuals who have other funds they can call on to make up for shortfalls, a more aggressive asset allocation combined with a DIA should work better than pure systematic withdrawal, wherein bequest values may be diminished by increased longevity.

The deferred-income annuity is a flexible product that can be used to meet a variety of retirement planning objectives. Are your clients giving it the consideration it deserves?

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