Can you Beat SPIAs with Long-Term Bonds?

By Michael Edesess
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While single-premium income annuities (SPIAs) guarantee a specific income as long as the purchaser lives, their rates of return generally compare unfavorably with long-term bonds over normal life expectancies. This makes SPIAs look like the inferior investment, notwithstanding their value as longevity insurance. But considering the low level of interest rates and the potential for future volatility, SPIAs are still a good choice for many retirees.

Recent articles in *Advisor Perspectives* and elsewhere have focused on SPIAs. For example, Manish Malhotra's article, Making the Right Wager on Client Longevity, examined when an investor should purchase a SPIA; Joe Tomlinson considers a related issue in an article this week, **Should You Wait to Buy a SPIA?;** and Tomlinson's article, Investing for Retirement: SPIAs, TIPS, Stocks and the 4% Rule, argued for the use of SPIAs to fund at least a portion of one's retirement.

But retirees are naturally reluctant to cede control of their assets, so let's consider whether fixed-rate nominal bonds can offer protection similar to that of a SPIA.

Suppose a very long-term bond purchased by a 65-year-old – say, a 40-year corporate – had a significantly higher expected internal rate of return than a SPIA, would that not make the bond the better option? The probability of surviving past age 105 is vanishingly small; at some advanced age, one must declare the probability to be effectively zero. Nevertheless, there is also the risk that the timing of cash flows from the bond may not match up with what the bondholder needs.

I will explore a scenario based on an investor whose *only* goal is to maximize the lifetime income he can receive with a high degree of certainty, assuming that money left over after the investor dies is of negligible value.

Annuities

"Annuities" covers a broad range of investment vehicles. Annuities that require you to pay only for the insurance feature can be beneficial because there are inconvenient events for which you can't self-insure (living too long, for example).

Insurance companies can do something that no individual can do – they can almost perfectly diversify the risk of selling annuities to some clients by selling life insurance to other clients. If sold in exactly the right amounts, the two will cancel out the insurance company's longevity risk – in other words, the insurance company won't care how long its policyholders live, because it will earn the same net income in any case.

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Insurers are essentially facilitators of wealth redistribution from those who are in some sense more fortunate to those who are less so – for example, from the life-insured who live long, to those who die young; and from the longevity-insured whose income stream is cut short by death, to those who desperately need income for many years.

Annuities for which you pay a substantial fee for investment management as well as for insurance – such as most variable annuities – are generally a bad deal, however, because investment management is worth much less than is usually charged for it. Some variable annuities, for example, charge a combined total of 4% in annual fees.

SPIAs

There are two types of SPIAs available, one that provides a level annual nominal income for life (the same number of dollars every year) and one that provides level inflation-adjusted income for life.

The web-based provider Income Solutions® supplied quotes, at my request, for annuities that pay 6.3% non-inflation-adjusted and 4.2% inflation-adjusted. That is, for each $100,000 purchase of a non-inflation-adjusted annuity, it will pay $6,300 a year for the rest of the annuitant's life. If you purchase an inflation-adjusted annuity, the same $100,000 will pay $4,200 a year at the start, then adjust it each year for inflation.

The annuity contract for which I received a quote is a joint life annuity for a man and woman, both 65 years old; one is the "Primary Annuitant" and the other the "Joint Annuitant." A living Primary Annuitant receives full payments whether or not the Joint Annuitant dies. The contract for which I requested a quote offers a two-thirds continued payout for the Joint Annuitant after the death of the Primary Annuitant. (The two-thirds can be changed to 50%, 75%, or 100%.) The couple purchasing the annuity can decide who is the Primary and who is the Joint Annuitant, a decision that may affect the payout slightly (but not much).

A rough calculation suggests that the insurance company is assuming that inflation will be a little over 3% a year, but the annuity guarantees that the payout will increase for inflation regardless of how high it may be. These annuities are offered by large well-known insurance companies like Prudential, Metropolitan Life, Principal, and Mutual of Omaha.

SPIAs versus bonds

One way to see whether the 6.3% and 4.2% are good deals is to compare them with how long the same income stream would last if obtained from a conventional investment, such as a bond. It should be noted, however, that the SPIA concedes any possibility of a bequest, unlike other investments.

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At this time, yields on all but long-term bonds are pitiful. Laddering a portfolio of TIPS or bonds to guarantee an income stream won't work well, because the yields on short- and intermediate-term TIPS and bonds are so low. For example, yields on 5-year TIPS are *minus* 1.2%. Yields on 15-year TIPS are still negative, and yields on 20-year TIPS are barely positive. Only when you come to 30-year TIPS do you get a better real yield, but that's still only 0.4%.

For Treasury bonds, the situation is worse. Historical yields for the 40 years until 2008 – even for shorter-term Treasury bonds – averaged about 7% and were close to 5% for most of the 2000s. Only recently did yields reach historic lows. Five-year yields are about 0.7%. Ten-year yields are about 1.4% and 15- to 20-year yields about 2%. Even 30-year Treasury-bond yields are only 2.6%.

Even so, the expected internal rates of return on the SPIAs make them appear uncompetitive with long-term Treasury bonds. The expected IRR on the non-inflation-adjusted SPIA based on standard actuarial tables is 1.5%, while the real expected IRR on the inflation-adjusted SPIA is -1.9%. These figures suggest that a better strategy may be to use long-term Treasury-bonds or TIPS to secure the income. Is such a strategy realistic?

The comparison

The best chance for reasonable income with a Treasury issue (Treasury bonds or TIPS) would be by buying a 30-year bond, then selling it off piecemeal to augment the income from its coupon.

The question is, if you used the same money that you would use to purchase a SPIA to buy a 30-year Treasury instead, then drew the same income as with the SPIA, how long would the Treasury last?

I made the comparison in Excel. In one case, I assumed investment in a long-term (30-year) US Treasury bond to compare with the non-inflation-adjusted annuity; in the other, the bond was a long-term (30-year) TIPS

The result is that *if yields don't change over the life of the bond* then the annuitants can continue to draw the required income for the entire 30-year life of a 30-year Treasury-bond (non-inflation-adjusted). They would have less than a year of income left over at the end, when they will be 95 years old. Perhaps the risk is acceptable at that point. The inflation-adjusted income from a 30-year TIPS would last only 27 years, until age 92.

But if yields *do* change the result is different. If yields on the TIPS contract were to rise steadily from the current 0.4% to 0.9% over the next 10 years and then stay there, the TIPS payout would last only 25 years. If the yield rose by a percent, to 1.4%, it would last only 23 years. If Treasury bond yields rise by a percent (which is more likely than TIPS yields rising by a percent, because nominal interest rates are more volatile) then the 30-

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year Treasury would last only 25 years. If they rise by 2% (something that most people expect to happen), then it would last only 21 years. A 2% rise in Treasury-bond yields would still leave them below the entire 40-year historical range of yields until 2008.

I looked at one more possibility – corporate bonds instead of US Treasuries. Corporate bonds have higher yields because they have a little more risk of default than Treasuries, though a diversified portfolio of high-rated corporate bonds is considered to have low default risk. With corporate bonds (and assuming no default) there is little or no risk of payments ending if yields do not change or if they rise by 1% over the next 10 years; but if they rise by 2%, then the payments run out in 30 years. Of course, interest rates could rise more than 2%, which would make things worse.

In other words, the strategy of buying and holding a 30-year bond and selling it off piecemeal to match the income that is guaranteed with the SPIA is a risky one. Why doesn't the bond's income stretch out as long when yields rise? Because when long-term interest rates rise, the bond's price will fall, and you'll only be able to sell a portion of it for considerably less than its purchase price.

For secure income it's hard to beat the SPIA, but…

This shows it's hard to get the same secure income that the SPIA provides in any other way. However, once you purchase a SPIA, the income becomes very inflexible. You can't cash it in (not easily anyway – it may be possible, but only at a substantial loss), and you can't move the income from a future year to an earlier one. Perhaps, though, you could borrow at a reasonably good rate against future SPIA income, since it's guaranteed. In other words, you lose some flexibility about when to spend your income, but you don't lose discretion entirely. Of course, there is also more counterparty risk with a private insurance company than the US government.

It's not necessary to purchase the SPIA right away – you could wait as long as you want, assuming SPIA payout rates remain as attractive relative to other alternatives as they are now. (Tomlinson's article in today's issue, cited above, explores this issue.) But there aren't any good options for parking money in the interim, since all returns are low. Expectations for returns on equities, though not a good short-term parking place in any case, are generally low now too.

Inflation-adjusted or non-inflation-adjusted?

Purchasing an inflation-adjusted SPIA provides better security, because if inflation goes wild in the future the SPIA will protect you. (Inflation-adjusted SPIAs offered by Principal and MetLife protect against deflation too, since nominal payments never decline.)

If you expect that you will want greater income in the next several years than you will need in later years, however, then the non-inflation-adjusted SPIA may be the better option. It

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will give you higher income in the earlier years, and later, when you don't expect to spend as much, inflation protection may be less important.

What about taxes?

As is pointed out in Joe Tomlinson's *Advisor Perspectives* article, **Annuities versus Systematic Withdrawals: Understanding Tax Effects**, if SPIAs or bonds are held in a tax-deferred retirement account, the tax treatment of their withdrawals will be the same. If they are held in a taxable account, however, their withdrawals will be taxed differently. The principal for the SPIA – which is not taxed – is assumed to be withdrawn in level annual amounts from the annuitant's initial age until his or her life expectancy. Tomlinson concludes that, for this time period, about 75% of the withdrawals will be considered principal and non-taxable, while the remainder will be taxable. But after the annuitant reaches life expectancy, all withdrawals will be taxable. For the bond, on the other hand, principal withdrawals will start smaller and grow over time as the coupon base grows smaller. As a result, there is less of a tax-deferral effect with the bond. Also, taxable coupon payments will make up a larger share of the total payouts than with the SPIA if the investor lives past life expectancy.

Taxation raises the possibility of using a portfolio of **30-year municipal bonds** instead, which currently yield about 3.1%. At a 28% average tax rate, these bonds are equivalent to taxable bonds yielding 4.3%.

In summary, in a time characterized by very low returns on safe investments, SPIAs may offer the best solution for a person or couple who care only about receiving a reasonably attractive lifetime income with a high level of certainty.

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