A "conservative" approach doesn't necessarily need to translate into more conservative investments in your portfolio during your retirement years.

Living off Retirement Savings in a World of Uncertain Return Patterns

By Maria Crawford Scott

Look in almost any financial publication or informational brochure aimed at individual investors and you will find broad asset allocation recommendations for the various stages of one's life.

Most of these recommendations are based on similar investor characteristics at each particular stage in life. While the actual recommendations vary, most follow similar profiles over time. And in general, most assume that retirees become more conservative.

Why the general assumption that retirees become more conservative and risk tolerance decreases? Do one's risk cells gradually die off as one ages?

As most retirees quickly discover, the concern has less to do with any perceived psychological changes, and more to do with the problem of periodical withdrawals and the subsequent gradual shrinking of a portfolio.

But there is more than one way of being conservative, and an understanding of this concern might help you in your own asset allocation process and in the assumptions you are using to determine how much to withdraw each year.

The Reasons for a Conservative Outlook

Withdrawing from a portfolio produces a more conservative outlook for several reasons, depending on the type of withdrawal plan or "spending rule" that you adopt.

There are several common rules of thumb that are used by many retirees to determine how much of their savings to spend each year. They include:

- Spend only the income generated from investments;
- Spend the total annual rate of return from investments;
- Create your own annuity and spend at a rate that allows you to withdraw a fixed amount consisting of both principal (your original savings) plus earnings on your savings over a fixed time period. (Of course, you could also buy a commercial annuity from an insurance company that would reduce the risk of a miscalculation, assuming the insurance company remains intact, but you will pay a price for this "insurance." This article assumes you are taking the do-it-yourself approach.)

It's easy to see why the first rule-of-thumb results in a more conservative investment approach. This rule encourages retirees to maximize income by putting savings in higher-yielding investments, such as bonds, and avoiding lower-yielding, higher-risk (but also higher-growth) investments such as stocks. The significant downside to this approach is that over the long term, your savings—and the income it generates—is unable to grow enough to keep pace with inflation, and you eventually may be faced with a lower standard of living down the road.

The second rule encourages retirees to invest in more growth-oriented vehicles to protect against a loss in purchasing power, since the return can consist of either capital gains or income from interest or dividends. However, single-year returns can be volatile, and most retirees would prefer a steadier income source. Thus, it is easy to see why this rule, too, would result in a more conservative investment approach.

The third approach, and variations of it, encourages retirees to invest in more growth-oriented vehicles; it also smooths annual withdrawals for a steadier source of income and it allows retirees to dip into part of their initial savings—a need for many who don't have enough wealth saved up to live off only income or returns.

However, retirees need to adopt a conservative outlook when using this third approach, although that outlook does not necessarily need to translate into more conservative investments. To see why, let's first review the approach.

Spending Rates: The Annuitization Approach

This spending rate approach annuitizes your savings based on your life expectancy, the rate of return you expect to earn

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over the time period, and the amount of money you want remaining at the end. Annuitization means to spread a lump-sum amount into equal withdrawals over the given time period, taking into consideration all of the earnings that will be generated by the remaining savings as they are gradually paid out. Under full annuitization, no savings remain at the end of the time period. However, you can adapt the approach to have various percentages of savings remain at the end to pass on to heirs or as a hedge against unknown life spans. If you choose to have 100% of savings remain, you essentially have chosen an approach that withdraws (spends) the long-term expected annual return on the portfolio.

One other adaptation (used in the approach that I described in detail in the August 1995 article "How Much of Your Savings Can You Afford to Spend During Retirement?") is to take inflation into consideration, so that the annual withdrawals increase at the expected rate of inflation. Under this approach, a "spending rate" is established for the first year—a percentage of your savings that you can spend; in subsequent years, the initial dollar amount can be increased by the assumed rate of inflation. Table 1 provides an example of the approach, and indicates the first-year spending rates for various life expectancies and rates of return, assuming a 4% annual increase in inflation and assuming that all savings are used up at the end—in other words, no estate remaining.

The Problem of Periodic Withdrawals

Whatever variation of the annuitization approach you use, the ultimate annual withdrawals will be a function of the expected long-term rate of return on your savings. Annuity equations assume that these long-term average returns are earned every year. Needless to say, this does not mesh with the real world. In reality, your annual returns will vary widely. Does this variation matter?

In the absence of additions or withdrawals to a portfolio, the end result would be the same regardless of when returns are earned. That is, two portfolios with the same long-term average return could have very different annual return patterns, one earning high returns in the early years and low returns in the latter years and the other with the exact same returns but in the opposite sequence, yet they will both end up with the same dollar amount. This is illustrated in Table 2; Portfolios A and B each start out with $1,000 and have the same long-term average annual returns, but opposite return sequences. However, their ending amounts of are identical.

If you are making withdrawals from a portfolio, however, it does matter when you earn varying returns. Specifically, your ending amount will be much higher if you earn the higher returns in the early years when there is more money in the portfolio; conversely, if there are too many losses in the early years, you could run through your portfolio much sooner than expected. Table 3 shows the exact same portfolio returns as Table 2, but with annual withdrawals (at the beginning of the year) of $50. Portfolio B ends up the winner after 10 years, with $1,176.26, compared to Portfolio A with only $1,023.28.

Unfortunately, this uncertainty is something every investor must live with, since there is obviously no way to predict returns, much less their sequence, in advance. What's the best way to cope if you are living off your investments?

Clearly, a retiree would be better off if the returns were less variable—but not necessarily if this is at the expense of a lower long-term average rate of return.

For instance, let's look at Table 4, which is a "spending spreadsheet" for a retiree who ends up with a very unfortunate return sequence.

Initially, this aggressive retiree decided to put all of his $800,000 retirement savings in S&P 500 stocks, and he as-

Table 1.
Spending Rates: The Annuitization Approach
(Assumptions: 4% inflation; leave no estate)

Life Expectancy (Years)	Expected Annual Return on Savings: 4%	5%	6%	7%	8%	9%	10%
	First-Year Spending Rate%:						
5	20.000	20.385	20.769	21.153	21.537	21.921	22.304
10	10.000	10.436	10.879	11.327	11.782	12.241	12.706
15	6.667	7.122	7.592	8.074	8.568	9.073	9.588
20	5.000	5.468	5.956	6.464	6.989	7.532	8.089
25	4.000	4.476	4.980	5.510	6.064	6.640	7.235
30	3.333	3.816	4.335	4.885	5.465	6.071	6.700
35	2.857	3.346	3.878	4.448	5.052	5.686	6.346
40	2.500	2.995	3.538	4.127	4.754	5.415	6.102
45	2.222	2.722	3.278	3.884	4.533	5.218	5.930
50	2.000	2.504	3.072	3.695	4.365	5.072	5.806

Table indicates amount of your savings you can spend in the first year, with spending in subsequent years increasing by rate of inflation; savings are exhausted at end of life expectancy. For example, if you have $350,000 in savings, you want your money to last 30 years and you expect to earn a 7% return on your savings based on your expected asset allocation over this time period, you can spend $17,097 in the first year ($350,000 × 4.885%); the next year, you could increase this amount by 4% to $17,781, and so on. In 30 years, you would exhaust your savings.

sumed a 10% long-term average rate of return on his investment. He also wanted a 4% increase in his spending amount each year to keep up with inflation, and he intended to spend his entire savings by the end of his life expectancy in 30 years. Theoretically, using the annuity spending rate approach illustrated in Table 1, he could spend $53,600 (6.7% of his savings) in the first year, and then increase that amount by 4% each year. If his savings earned 10% each year, he would run through his money in 30 years.

As it turned out, however, our retiree did earn an average of 10%, but most of his big gains didn't occur until the end of his life expectancy, while the losses occurred toward the beginning. (These returns duplicate a particularly bad real-life sequence, the 1965-1994 time period, starting with the losses of the late 1960s and 1970s, and ending with the strong returns of the 1980s and early 1990s). If our retiree continued to withdraw his original inflation-adjusted amount, he would run through his money in only 16 years, as shown in Table 1 under the 100% Stock Portfolio column of the first spending rate example.

Would the addition of lower-return, lower-volatility investments that smooth the return patterns have helped?

The 50% Stock/Bond Portfolio column indicates the results for a portfolio equally balanced between stocks and short-term bonds (assuming rebalancing each year, and assuming short-term bonds return a constant 4%). The result—he still runs out in 16 years in this bad-luck scenario. Although the losses are lessened, so are any gains.

Changing Other Variables

Of course, in the 50% Stock/Bond Portfolio example, the annual withdrawals remain at the rate that was determined based on the assumed 10% long-term average rate of return. However, this mixed portfolio obviously would have a lower long-term average rate of return—probably close to 7% [(50% × 10%) + (50% × 4%)]. If withdrawals were based on this return (with a first-year spending rate of around 5%), our retiree's savings in this bad-luck scenario would last 24 years, as indicated in the 50% Stock/Bond Portfolio column in the second spending rate example in Table 4.

On the other hand, if withdrawals were reduced in the 100% stock portfolio, our retiree's savings would also last longer. If he withdrew at the same low rate as in the mixed portfolio, his savings would last 29 years (see Table 4) in the bad-luck scenario, since the higher returns at the end would start to benefit our aggressive retiree.

Of course, this is only one example; there are countless variations on return patterns, and under other scenarios the mixed portfolio may last somewhat longer than the more aggressive portfolio. The point, however, is that lowering the spending amount is a more certain way to deal with the uncertainty of varying return patterns, and you can do this regardless of whether or not you change your asset allocation to a less volatile but lower-return mix.

Our retiree also assumed that he would be spending his entire savings—he would leave no estate to his heirs. If he had assumed he would be leaving an estate, his annual withdrawals would have been lower, but in the bad-luck scenario, there would be nothing left for the heirs. Clearly, allowing the size of your estate to vary is another way to deal with the uncertainty of varying return patterns. (Actually, since leaving an estate results in lower spending rates, it essentially is the same as lowering your spending level.)

The Conservative Approach

Your asset allocation should be based on your own toler-

Table 2.
Varying Return Patterns: No Additions or Withdrawals
($1,000 initial amount; 6% average annual return)

	Portfolio A		Portfolio B	
Year	Return (%)	Amount ($)	Return (%)	Amount ($)
1	1	1,010.00	12	1,120.00
2	2	1,030.20	10	1,232.00
3	2	1,050.80	14	1,404.48
4	3	1,082.33	9	1,530.88
5	1	1,093.15	8	1,653.35
6	8	1,180.60	1	1,669.89
7	9	1,286.86	3	1,719.98
8	14	1,467.02	2	1,754.38
9	10	1,613.72	2	1,789.47
10	12	1,807.37	1	1,807.37
Average	6		Average 6	

Table 3.
Varying Return Patterns: The Impact of Withdrawals
($1,000 initial amount; $50 annual withdrawals;
6% average annual return)

	Portfolio A		Portfolio B	
Year	Return (%)	Amount ($)	Return (%)	Amount (%)
1	1	959.50	12	1,064.00
2	2	927.69	10	1,115.40
3	2	895.24	14	1,214.56
4	3	870.60	9	1,269.37
5	1	828.81	8	1,316.92
6	8	841.11	1	1,279.58
7	9	862.31	3	1,266.47
8	14	926.04	2	1,240.80
9	10	963.64	2	1,214.62
10	12	1,023.28	1	1,176.26
Average	6		Average 6	

ance for risk, based on the amount of loss you can stomach without abandoning your plan. But this doesn't need to change when you retire—there are other ways to be "conservative" when you are living off your retirement income.

Here are some things to keep in mind when trying to cope with uncertainty when withdrawing from savings:

- Make sure you use conservative return assumptions when determining how much to withdraw each year. Using conservative assumptions does not necessarily mean that you should invest conservatively, but don't assume you are actually going to attain high rates of return with volatile investments when deciding how much to withdraw each year. It is easier to loosen your belt in future years, than it is to tighten your belt.
- Diversification across various investment classes—large company stocks, small company stocks and international stocks—that do well at different times tends to smooth returns without significantly lowering long-term average rates of return. Make sure that even in retirement your portfolio is diversified.
- Don't give yourself an automatic inflation raise each year just because that is part of your assumption. Increase spending or withdrawal according to real increases in expenses.
- Make sure you build in life expectancy assumptions that are well beyond what you really expect.
- Review your circumstances annually to make sure that your assumptions are in line with reality.

Table 4.
A Bad-Luck Scenario
Initial Portfolio Value: $800,000

		First-Year Spending Rate: 6.7%					First-Year Spending Rate: 5.0%				
			100% Stock Port.		50% Stock/Bond Port.			100% Stock Port.		50% Stock/Bond Port.	
Year	Age	Annual Spending Amount ($)	Actual Annual Return (%)	Savings at Year-End ($)	Actual Annual Return (%)	Savings at Year-End ($)	Annual Spending Amount ($)	Actual Annual Return (%)	Savings at Year-End ($)	Actual Annual Return (%)	Savings at Year-End ($)
1	65	53,600	12.50	839,700	8.25	807,978	40,000	12.50	855,000	8.25	822,700
2	66	55,744	(10.10)	704,776	(3.05)	729,291	41,600	(10.10)	731,247	(3.05)	757,276
3	67	57,974	24.00	802,035	14.00	765,301	43,264	24.00	853,098	14.00	813,974
4	68	60,293	11.10	824,076	7.55	758,237	44,995	11.10	897,803	7.55	827,038
5	69	62,704	(8.50)	696,655	(2.25)	679,883	46,794	(8.50)	778,673	(2.25)	762,688
6	70	65,213	4.00	656,700	4.00	639,257	48,666	4.00	759,207	4.00	742,583
7	71	67,821	14.30	673,089	9.15	623,723	50,613	14.30	809,924	9.15	755,285
8	72	70,534	19.00	717,040	11.50	616,805	52,637	19.00	901,171	11.50	783,452
9	73	73,355	(14.70)	549,063	(5.35)	514,375	54,743	(14.70)	722,003	(5.35)	689,724
10	74	76,290	(26.50)	347,489	(11.25)	388,801	56,932	(26.50)	488,827	(11.25)	561,602
11	75	79,341	37.20	367,898	20.60	373,209	59,210	37.20	589,435	20.60	605,885
12	76	82,515	23.80	353,305	13.90	331,101	61,578	23.80	653,487	13.90	619,966
13	77	85,815	(7.20)	248,231	(1.60)	241,361	64,041	(7.20)	547,005	(1.60)	547,029
14	78	89,248	6.60	169,475	5.30	160,175	66,603	6.60	512,109	5.30	505,889
15	79	92,818	18.40	90,763	11.20	74,901	69,267	18.40	524,325	11.20	485,524
16	80	96,531	32.40	—	18.20	—	72,038	32.40	598,828	18.20	488,741
17	81	100,392	(4.90)	—	(0.45)	—	74,919	(4.90)	498,237	(0.45)	411,959
18	82	104,407	21.40	—	12.70	—	77,916	21.40	510,270	12.70	376,467
19	83	108,584	22.50	—	13.25	—	81,033	22.50	525,815	13.25	334,579
20	84	112,927	6.30	—	5.15	—	84,274	6.30	469,359	5.15	263,196
21	85	117,444	32.20	—	18.10	—	87,645	32.20	504,625	18.10	207,325
22	86	122,142	18.50	—	11.25	—	91,151	18.50	489,968	11.25	129,244
23	87	127,028	5.20	—	4.60	—	94,797	5.20	415,720	4.60	36,032
24	88	132,109	16.80	—	10.40	—	98,589	16.80	370,409	10.40	—
25	89	137,393	31.50	—	17.75	—	102,532	31.50	352,258	17.75	—
26	90	142,889	(3.20)	—	0.40	—	106,633	(3.20)	237,765	0.40	—
27	91	148,604	30.50	—	17.25	—	110,899	30.50	165,560	17.25	—
28	92	154,549	7.70	—	5.85	—	115,335	7.70	54,093	5.85	—
29	93	160,730	10.00	—	7.00	—	119,948	10.00	—	7.00	—
30	94	167,160	1.30	—	2.65	—	124,746	1.30	—	2.65	—