PORTFOLIO STRATEGIES WORKSHOP

# The "Conservative" Approach to Determining Your Spending Rate

By Maria Crawford Scott

Li and Susan Chang, both 64, are one year away from retirement and are trying to determine an annual spending amount.

The Changs will receive annual payments of about $25,000 from Social Security and pension plans. But they will be supplementing these with withdrawals from their accumulated investments, which currently total $650,000.

There are several approaches to determining their annual spending amount that they have already rejected:

- They prefer not to spend only the income generated from their investments, because they fear they would be inclined to put more of their investments into higher-yielding but lower-growth vehicles such as bonds. The danger is that their investments and the income it generates may be unable to grow enough to keep pace with inflation.
- They also prefer not to spend their total annual rate of return from their investments, which would encourage them to invest in more growth-oriented investments, but would produce a much more variable source of income.

Instead, the Changs have decided to adopt an annuitization approach: They will withdraw a relatively fixed amount (in today's dollar terms) each year, regardless of the annual income or total return generated by their savings, with the amounts such that all savings are used up at the end of their life expectancy. Under the approach they have chosen, a "spending rate" is established for the first year—a percentage of savings that can be spent; in subsequent years, the initial dollar amount can be increased by the assumed rate of inflation.

The annual amount they can withdraw is based on their life expectancy, the long-term rate of return they expect to earn over that time period, and the expected rate of inflation. Table 1 indicates the first-year spending rates for various life expectancies and rates of return assuming a 4% annual increase in inflation. (For a complete description of this approach, see "How Much of Your Savings Can You Afford to Spend During Retirement?" in the August 1995 *AAII Journal*.)

But the Changs are still concerned about withdrawing too much each year from their savings. They want to make sure that neither one of them outlives their savings, and they also want to make sure they are not forced to lower their living standards because of insufficient funds. So they want to adopt a conservative approach with their retirement savings.

But what is a conservative approach? Is it time to change their asset allocation to a more conservative mix?

The Changs' current asset mix consists of 70% invested in stocks, 20% in bonds, and 10% in cash. They assume relatively conservative long-term rates of return for each asset class of 10% for stocks, 6% for bonds, and 3% for cash and estimate the long-term rate of return on the savings portfolio to be 8.5% [(0.70 × 10%) + (0.20 × 6%) + (0.10 × 3%)]. If they were to use this rate of return in the annuitization approach, and assume a conservative life expectancy of 30 years, they would have a first-year spending rate (from Table 1) of roughly 5.5%, or $35,750. The returns are before taxes, and the Changs realize their annual spending amount will go in part to pay Uncle Sam.

However, the Changs see a potential problem with the annuitization approach. Their annual withdrawals are a function of the expected long-term rate of return on their savings. And the annuity equations assume that these long-term average returns are earned every year. But this doesn't mesh with the real world, where annual returns vary widely. Different return patterns would make little difference in a portfolio in which there are no additions or subtractions. But when withdrawals occur, the sequence of returns can make a difference—specifically, you are better off if major losses occur in later years, when there is

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less in the portfolio due to withdrawals.

Li does a relatively simple "worst-case scenario" simulation to see how annual variations may affect their investment portfolio when they are making annual withdrawals. He decides to pick one of the worst time periods from a withdrawal standpoint, when big losses occurred toward the beginning, but in which the long-term return of stocks was 10%. One such period was 1965 through 1994, starting with the losses of the late 1960s and 1970s, and ending with the strong returns of the 1980s and early 1990s. Li determines the returns he would have received assuming an asset mix of 70% stocks, 20% bonds, and 10% cash (assuming rebalancing each year and assuming constant returns for the bond and cash portion) and applies those returns to his investment portfolio. He also withdraws their spending amount each year, with a first-year spending rate of 5.5% and increasing the amount each year by 4% (the expected inflation rate). The results appear in the first series of columns in Table 2, under the heading First-Year Spending Rate: 5.5%. As you can see, the Changs run through their investments sooner than expected, in year 22.

The Changs' first reaction is to consider changing the asset mix. Would the addition of lower-return, lower-volatility investments that smooth the return patterns help?

Li runs a similar simulation but determines the returns he would have received assuming a radically different asset mix of 20% stocks, 70% bonds, and 10% cash. The results, assuming the same spending rate, aren't any better—they run through their investments at roughly the same time, even though the portfolio returns are less variable.

Of course, Li's bad-luck scenario is only one example, and there are countless variations on return patterns; it also uses simplified assumptions. But it does illustrate that the addition of less volatile, but lower returning assets don't help solve the dilemma. When the stock market suffers a loss, a portfolio with a lesser commitment to stocks is hurt less than a portfolio with a greater commitment to stocks, but it is still affected. However, a portfolio that has a greater bond commitment has a lower ability to make up the loss. So, although the losses are lessened, so are any gains.

After pondering the problem, the Changs realize that the most effective—and conservative—way to deal with the uncertainty of varying return patterns is to lower their spending amount, which they can do regardless of whether they change their asset allocation to a less volatile but lower-return mix. The second set of columns in Table 2 illustrates their investment portfolio over the years using the same returns as the first set of simulations, but with a reduced first-year spending rate of only 4.5%.

The lowered first-year spending rate means they can spend only $29,250 of their investment portfolio in their first year of retirement, compared to the $35,750 they had determined previously. But they feel more comfortable with their conservative approach. While it corresponds in Table 1 to a long-term return of 6.5% annually, they will keep their current allocation and long-term target return of 8.5%. They can always increase their spending later if they become more confident that they can reach their long-term goal at the higher level.

### The Conservative Approach

"Be conservative—don't spend so much!" is good advice frequently given to younger individuals still saving for their retirement. But it also holds true in retirement.

Your asset allocation should always be based on your own tolerance for risk—the amount of loss you can stomach without abandoning your plan. But being "conservative" doesn't necessarily require that you shift your assets into a lower percentage of stock holdings when you are withdrawing assets from your investment portfolio. 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:

- Be conservative when determining your first-year spending rate. Make sure you use conservative return assumptions when determining how much to withdraw each

**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%: | | | | | | |
| 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 |

*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.*

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 it up.

- 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 2.**
**The Changs' Bad-Luck Scenario Simulations**

| | | First-Year Spending Rate: 5.5% | | | | | First-Year Spending Rate: 4.5% | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 70%/20%/10% Stocks/Bonds/Cash | | 20%/70%/10% Stocks/Bonds/Cash | | | 70%/20%/10% Stocks/Bonds/Cash | | 20%/70%/10% Stocks/Bonds/Cash | |
| 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 | 35,750 | 10.25 | 677,211 | 7.00 | 657,248 | 29,250 | 10.25 | 684,377 | 7.00 | 664,203 |
| 2 | 66 | 37,180 | (5.57) | 604,381 | 2.48 | 635,445 | 30,420 | (5.57) | 617,531 | 2.48 | 649,500 |
| 3 | 67 | 38,667 | 18.30 | 669,239 | 9.30 | 652,278 | 31,637 | 18.30 | 693,113 | 9.30 | 675,325 |
| 4 | 68 | 40,214 | 9.27 | 687,336 | 6.72 | 653,195 | 32,902 | 9.27 | 721,413 | 6.72 | 685,593 |
| 5 | 69 | 41,822 | (4.45) | 616,788 | 2.80 | 628,491 | 34,218 | (4.45) | 656,614 | 2.80 | 669,613 |
| 6 | 70 | 43,495 | 4.30 | 597,945 | 5.30 | 616,001 | 35,587 | 4.30 | 647,731 | 5.30 | 667,630 |
| 7 | 71 | 45,235 | 11.51 | 616,326 | 7.36 | 612,774 | 37,011 | 11.51 | 681,015 | 7.36 | 677,033 |
| 8 | 72 | 47,045 | 14.80 | 653,535 | 8.30 | 612,685 | 38,491 | 14.80 | 737,617 | 8.30 | 691,541 |
| 9 | 73 | 48,926 | (8.79) | 551,464 | 1.56 | 572,553 | 40,031 | (8.79) | 636,269 | 1.56 | 661,674 |
| 10 | 74 | 50,883 | (17.05) | 415,232 | (0.80) | 517,496 | 41,632 | (17.05) | 493,251 | (0.80) | 615,081 |
| 11 | 75 | 52,919 | 27.54 | 462,094 | 11.94 | 520,048 | 43,297 | 27.54 | 573,871 | 11.94 | 640,055 |
| 12 | 76 | 55,035 | 18.16 | 480,980 | 9.26 | 508,073 | 45,029 | 18.16 | 624,880 | 9.26 | 650,126 |
| 13 | 77 | 57,237 | (3.54) | 408,743 | 3.06 | 464,631 | 46,830 | (3.54) | 557,587 | 3.06 | 621,756 |
| 14 | 78 | 59,526 | 6.12 | 370,588 | 5.82 | 428,682 | 48,703 | 6.12 | 540,027 | 5.82 | 606,405 |
| 15 | 79 | 61,907 | 14.38 | 353,069 | 8.18 | 396,777 | 50,652 | 14.38 | 559,748 | 8.18 | 601,214 |
| 16 | 80 | 64,384 | 24.18 | 358,490 | 10.98 | 368,890 | 52,678 | 24.18 | 629,680 | 10.98 | 608,765 |
| 17 | 81 | 66,959 | (1.93) | 285,904 | 3.52 | 312,559 | 54,785 | (1.93) | 563,800 | 3.52 | 573,481 |
| 18 | 82 | 69,637 | 16.48 | 251,907 | 8.78 | 264,250 | 56,976 | 16.48 | 590,348 | 8.78 | 561,854 |
| 19 | 83 | 72,423 | 17.25 | 210,445 | 9.00 | 209,091 | 59,255 | 17.25 | 622,707 | 9.00 | 547,833 |
| 20 | 84 | 75,320 | 5.91 | 143,111 | 5.76 | 141,477 | 61,625 | 5.91 | 594,241 | 5.76 | 514,213 |
| 21 | 85 | 78,333 | 24.04 | 80,352 | 10.94 | 70,052 | 64,090 | 24.04 | 657,599 | 10.94 | 499,366 |
| 22 | 86 | 81,466 | 14.45 | — | 8.20 | — | 66,654 | 14.45 | 676,337 | 8.20 | 468,194 |
| 23 | 87 | 84,725 | 5.14 | — | 5.54 | — | 69,320 | 5.14 | 638,217 | 5.54 | 420,972 |
| 24 | 88 | 88,114 | 13.26 | — | 7.86 | — | 72,093 | 13.26 | 641,192 | 7.86 | 376,301 |
| 25 | 89 | 91,638 | 23.55 | — | 10.80 | — | 74,977 | 23.55 | 699,560 | 10.80 | 333,867 |
| 26 | 90 | 95,304 | (0.74) | — | 3.86 | — | 77,976 | (0.74) | 616,984 | 3.86 | 265,769 |
| 27 | 91 | 99,116 | 22.85 | — | 10.60 | — | 81,095 | 22.85 | 658,340 | 10.60 | 204,249 |
| 28 | 92 | 103,080 | 6.89 | — | 6.04 | — | 84,339 | 6.89 | 613,550 | 6.04 | 127,154 |
| 29 | 93 | 107,204 | 8.50 | — | 6.50 | — | 87,712 | 8.50 | 570,534 | 6.50 | 42,005 |
| 30 | 94 | 111,492 | 2.41 | — | 4.76 | — | 91,221 | 2.41 | 490,865 | 4.76 | — |