

## Signs of a failing retirement plan

## How long will your retirement portfolio last? Check it four years after you retire

By Jim Otar

Several years ago, I saw a wonderful documentary called " 28 Up." Director Michael Apted interviewed 14 British children diverse in gender, race and economic background at ages 7, 14, 21 and 28 and observed the changes in their lives. This film convinced me that whatever dreams, personalities and ethics children develop by age 7, they pretty well carry for the rest of their lives.

What does this have to do with retirement portfolios? Well, at least one thing: how your portfolio performs in its first four years (we will use a four-year cycle to match the US presidential cycle of equity markets) sets the tone for the rest of your retirement years. After that time, you can tell whether your portfolio will last you a lifetime.

Here is how it goes: Assume you have invested $\$ 500,000$ for your retirement. Now you are retiring. You need $\$ 30,000$ from this portfolio during the first year of retirement, indexed annually for inflation. The initial withdrawal rate is $6 \%$, calculated as $\$ 30,000$ divided by $\$ 500,000$. For this example, I assumed that you have an asset mix of $60 \%$ equities and $40 \%$ fixed income and you rebalance this portfolio annually. I calculated the portfolio value over time if you were to retire in each of the years between 1900 and 1996. Then I observed the portfolio values four years after the year of retirement. These portfolios were divided into two groups: W (Winners) included only the portfolios that had a higher market value after four years; $L$ (Losers) included those with a lower market value after the same time period. Figure 1 shows all the portfolio values in Group W between 1900 and 1996. Figure 2 shows the same for Group L. You can see clearly in Figure 2 that most portfolios run out of money between the 13th and 20th year of retirement in Group L.

Figure 1: Portfolio Value over time, Group W, 1900-1996


Figure 2: Portfolio Value over time, Group L, 1900-1996


The average portfolio life was 24.9 years for Group W, and 17.8 years for Group L. After 20 years, only $15 \%$ of the portfolios in Group W ran out of money, whereas in Group L, the percentage was $70 \%$. These figures are based on a $6 \%$ initial withdrawal rate. The statistics for different initial withdrawal rates are as follows:

Average portfolio life:

| Initial <br> withdrawal <br> rate | Average portfolio life <br> (years) |  | Difference |
| :---: | :---: | :---: | :---: |
|  | Group W | Group L |  |
| $4 \%$ | 28.7 | 26.9 | $6.7 \%$ |
| $5 \%$ | 27.1 | 21.0 | $29.0 \%$ |
| $6 \%$ | 24.9 | 17.8 | $39.9 \%$ |
| $8 \%$ | 19.6 | 13.7 | $43.1 \%$ |

Probability of Depletion:

| Initial <br> withdrawal <br> rate | After 20 years |  | After 25 years |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Group W | Group L | Group W | Group L |
| $4 \%$ | $0 \%$ | $0 \%$ | $13 \%$ | $27 \%$ |
| $5 \%$ | $5 \%$ | $45 \%$ | $26 \%$ | $87 \%$ |
| $6 \%$ | $15 \%$ | $70 \%$ | $44 \%$ | $91 \%$ |
| $8 \%$ | $48 \%$ | $90 \%$ | $91 \%$ | $98 \%$ |

Think of a cannonball: The length of the barrel of the cannon is the first four years of your retirement. The higher the canon is pointing upward, the further the cannonball flies. Similarly, the higher the portfolio value is after four years, the longer the portfolio will last.

Why does the performance of a portfolio during its first four years set the tone for the rest of its life? There are both external and internal reasons. Externally, the markets may be in a secular bear mode or in a multiyear sideways range, which means you need to withdraw income even though the portfolio is not helped by market action. (This is the way it was from 1966 to 1982.) For a retiree, a sideways market is considered a bear market because of the effects of reverse dollar cost averaging. Another external factor is that inflation may be high, as it was between 1974 and 1982, forcing you to withdraw larger and larger amounts for the rest of your life.

On the internal side, your asset mix might not be optimal for the income taken out, you might be rebalancing too frequently, your investments might be chronically underperforming, you might be taking your income from volatile investments, amplifying the effects of reverse dollar cost averaging, and/or your portfolio management expenses might be too high.

Regardless of the reason, the bottom line is, if your portfolio value has a lower market value four years after the start of your retirement, chances are its average life will be between $30 \%$ and $40 \%$ shorter than that of a portfolio with a higher market value. This should ring alarm bells, because if you continue with your existing strategy, you will most likely run out of money prematurely. History shows mega-bull markets usually don't come back so fast: we
have just left one behind in 1999, and it was the longest of its kind in the past century.
Annuities should be considered more reliable income sources if your portfolio does not pass the "four-year checkup."

So, if you retired four years ago and your portfolio is worth less now than it was worth then, and your adviser is telling you to hang on for the "long term," your definition of long term might be a lot shorter than his. Be cautious.

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