

# Retirement Planning: Buy Life and Invest the Difference

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Most investors think about life-annuities only after they see large losses in their investment portfolios. Few speak about annuities during a bull market. However, in retirement planning we need to look at all available options in all types of markets.

In my previous articles, we looked at market history as it applies to retirement planning and how to build annuity ladders (staggering the purchase of annuities over time). In this article we will look at three different strategies to compare their benefits and limitations in providing life-long income.

## **Investment Only:**

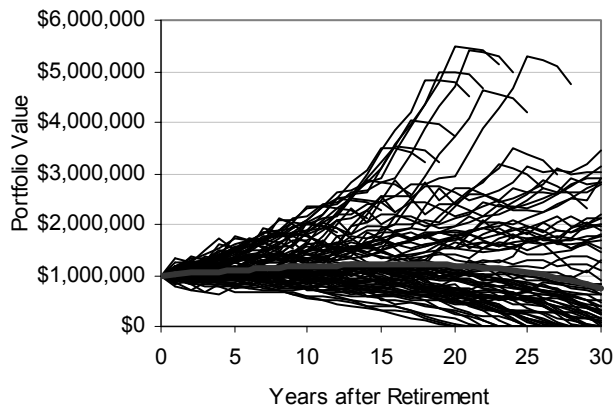
The first strategy is to simply invest the retirement savings in an optimum asset mix, taking out income required. Depending on your age and life expectancy, withdrawals need to be at or below the sustainable withdrawal rate (SWR). Typically, the maximum initial withdrawal amount at the start of retirement, adjusted each year for inflation with equities performing same as the index and the age of death at 95, is as follows:

Retirement Age	SWR
55	2.9%
60	3.2%
65	3.6%
70	4.1%
75	4.7%

Let us look at an example: Say, you are 65-years old; need \$50,000 annually from your retirement savings of one million dollars. This is an initial withdrawal rate of 5%, which is well above the sustainable withdrawal rate of 3.6% cited in the above table.

Figure 1 shows this portfolio value during retirement for an optimum asset mix of 60% fixed income and 40% equity. Each line shows the portfolio value if you retired in each of the years between 1900 and 1999.

Figure 1: Investment Only



We see that in the worst case, you would run out of money in about 19 years. The probability of running out of money at ages 85, 90 and 95 is 2%, 13% and 32%, respectively. This is obviously not the best solution, and yet this strategy is the most common approach to retirement planning.

### **Buy Term and Invest the Difference:**

The second strategy is to buy a term-annuity using part of the retirement savings. Invest the remainder of the savings in a balanced portfolio. The term-annuity provides the entire income requirement for the contracted period of time. During this time, you hope that your investment portfolio grows sufficiently to provide you with a lifetime income after this term-annuity expires. Mr. Paul Grangaard popularized this strategy in recent years and called it Grangaard Strategy.

In theory, this strategy sounds great. However, when I worked out the numbers in conjunction with one hundred years of market history, it became apparent that it does not add much benefit. Any variations and improvements to this strategy involve different market timing methods which may or may not work reliably. In the final analysis, this strategy adds about 0.3% to 0.5% to the sustainable withdrawal rate of the “invest only” strategy.

Going back to our example, we need to pay about \$411,500 for a 10-year term annuity to receive a monthly income of \$4,167 (\$50,000 yearly) at 4% interest rate. The remainder, \$588,500 (the original one million dollars minus what was paid for the term annuity) is invested. Figure 2 shows the portfolio value of this strategy for all the years of retirement between 1900 and 1999.

Figure 2: Buy Term and Invest the Difference



We see that at the worst case, you would run out of money in about 23 years. This is a noteworthy 20% improvement over the “invest only” strategy. However, the probability of running out of money at ages 85, 90 and 95 is 0%, 8% and 32% respectively, -only marginally better than that of the “invest only” strategy.

When is the “Buy Term and Invest the Difference” strategy feasible? The following table shows the minimum required interest rate for a 10- year and a 15-year term annuity to ensure that the withdrawals are sustainable for someone retiring at age 65, expiring at age 95.

Initial Withdrawal Rate	Minimum required Interest Rate for a 10-year Term Annuity	Minimum required Interest Rate for a 15-year Term Annuity
4%	0.1%	0.2%
5%	16.0%	6.2%
6%	Not Meaningful	13.5%

This strategy can work effectively only when withdrawal rates are low and interest rates are high.

**Buy Life and Invest the Difference:**

The third strategy is to build a life annuity ladder over time and invest the remaining amount in a balanced portfolio. Ideally, when the ladder is completed you will not need any income from the investment portfolio. In my previous articles, I described how to build annuity ladders.

An analogy can best demonstrate why we use life annuities for retirement portfolios. Seasoned stock traders always use a “stop-loss”, a price level below that they will sell the stock and go to cash. Cutting losses protects your capital. This is the most basic money management rule in technical analysis. When we talk about retirement planning, selling your equities and going to cash is not a long-term option. Holding cash for too long only increases the certainty of depletion of an income portfolio. The only “stop-loss”

equivalent for a retirement portfolio is switching part of your money to a life annuity over time. Our model calculates this “retirement stop-loss” level and allocates funds from the investment portfolio to a life annuity, as needed. Once all of the income need is completely met through the income from annuities, the remaining investment portfolio is earmarked for estate, emergencies and discretionary expenses only.

Going back to our earlier example, Figure 3 shows the portfolio value over the last century maximizing income security.

Figure 3: Buy Life and Invest the Difference



Historically, the portfolio never ran out of money. Neither was there any reduction of income throughout this entire time period for as long as the client lived. In the first, second, and third years of retirement, on the average, \$550,000, \$234,000 and \$45,000 of annuity were purchased, respectively. The average estate value of the remaining investment portfolios was \$700,000, \$952,000 and \$1,318,000 after 20, 25 and 30 years respectively.

When we talk about life annuities, a recurring concern is that they leave no estate value. You can get around this by specifying a minimum guaranteed pay period of 10 or 15 years when buying the life annuity. Another way may be to buy a term insurance to cover the asset drawdown during the early years of retirement.

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