

### This Quarter's Highlights

- Compromises can improve retirement picture
- The use of simulations in retirement plan evaluations
- Delaying retirement
- Reducing retirement spending
- Saving more before retirement

## KANAWHA CURRENTS

### Beat the Retirement Odds

It's common for retirees and soon-to-be retirees to worry about having enough money to last them through their retirement. For many, the economic concept of *scarce resources* rings true. Financial assets may not be sufficient to meet all of one's needs and desires. Therefore, compromises often need to be made to improve the likelihood that one's resources will be sustainable. These tradeoffs can generally be narrowed down to 1) retiring later 2) spending less in retirement or 3) saving more. Modeling these scenarios in advance can help individuals make sound financial decisions today that will pay dividends in the future.

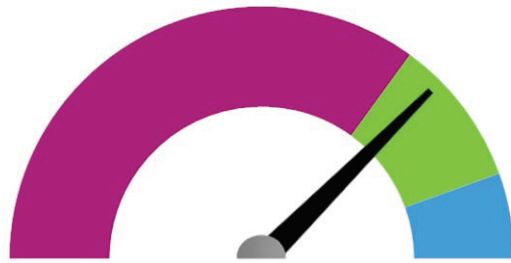
*“As in many areas of investing and financial planning, uncertainty often causes angst. It is no different in retirement planning, as investors want to know if their assets will be sufficient to support them through their retirements.”*

Several different approaches are used to evaluate retirement plans. These include *present value* calculations, *average return* projections, and *simulations*, among others. The use of simulations is generally considered to be a superior technique to the other, more traditional approaches. *Present value* “backs into” an amount of money needed to retire, and *average return* uses an average rate of return each year to construct a single outcome. Unlike these more conventional and simplistic techniques which are not able to reflect basic investment market volatility, simulations incorporate varying return data. This approach better reflects the economic reality of up and down markets and the impact such volatility has on retirement models.

The software employed in our analysis uses a formula that is essentially equivalent to running 10,000 different trials. The large number of observations helps provide a more accurate representation of a plan's underlying assumptions and minimizes the effects of outlier events. If a trial

has at least one dollar left at the end of the retirement time horizon, it is considered a success. On the other hand, if a trial runs out of money at any point before the end of the plan, it is considered a failure. The results illustrate the proportion of trials that produced positive outcomes. A sample of these results can be seen in Figure 1.

**Figure 1**



**Probability of Success: 75%**

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The purpose of this analysis is to help assess one's base case scenario and then gauge the potential impact that each of the aforementioned tradeoffs might have on improving one's financial security in retirement. Our test couple is going to be John and Jane Doe, both age 60, who would like to retire at age 66. They have \$850,000 in a retirement plan and \$200,000 in a joint brokerage account. Their annual Social Security retirement income is projected to be \$45,000 (\$30,000 for John's benefit and \$15,000 for Jane's spousal benefit) at their Full Retirement Age. This will meet a portion of their needs, while the balance will come from their investment assets.

The Does' ideal scenario is to retire at age 66 with total annual retirement spending of \$96,000. This is the amount of annual after-tax income they have estimated they will need to maintain their current lifestyle. Based on their ideal goals and the assumptions used in Figure 2, the chances of the Does' assets being able to fully fund their living expenses are less than optimal at 46%. In other words, based on thousands of investment return simulations, they have a 1 in 2 chance of running out of money. Consequently, they would like to examine how delaying retirement, choosing to

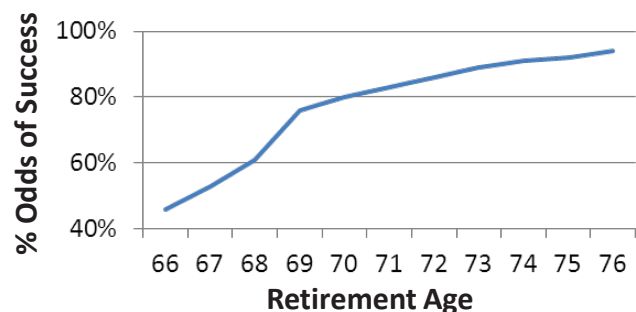
spend less in retirement, and/or saving more money before retirement will improve the picture.

**Figure 2: Assumptions**

Average Rate of Return	6.4%
Standard Deviation	9.9%
Inflation	3.0%
John's Life Expectancy	90
Jane's Life Expectancy	93
Annual Spending Needs	\$96,000
Social Security Benefits	\$45,000
Annual Pre-Retirement Savings	\$12,000

First, we analyze how delaying their retirement beginning date might increase their odds of success. In order to accomplish this, we adjust their beginning date while holding all of the other assumptions constant. By delaying retirement for one year (to age 67), the Does can improve their success probability from 46% to 53%. As we can see in Figure 3 below, the Does realize significant gains in their retirement prospects for each year that they defer through age 69 (from 46% at age 66 to 76% at 69). Beyond age 70, however, the incremental gains are less pronounced.

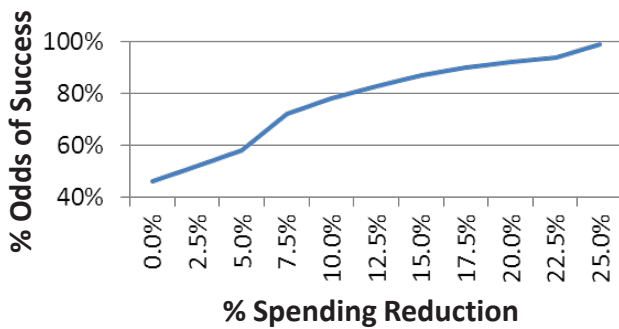
**Figure 3: Delay Retirement**



Next, we explore how a reduction in spending might benefit their retirement plan. Reducing their annual spending needs by 5%, or from \$96,000 to \$91,200, increases their probability of success from

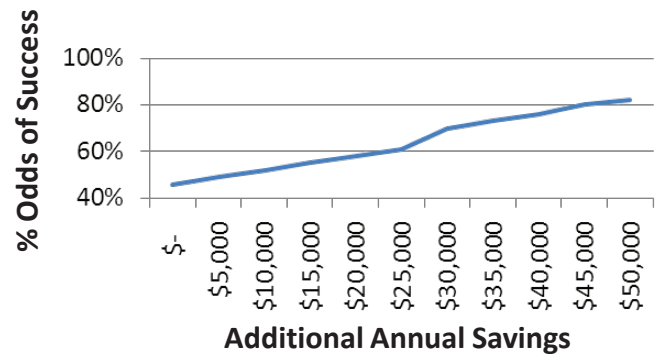
46% to 58%. Cutting back their total expenses by another 5% (to \$86,400) increases the odds of success to 78%. This suggests a fairly modest decrease in spending has a material impact on improving the sustainability of their investment assets over their retirement years.

**Figure 4: Reduce Retirement Spending**



To illustrate how our third tradeoff—increasing annual savings—might improve one’s retirement prospects, we increase the Does’ annual savings by a certain absolute value beyond their current amount of \$12,000. We are going to assume the Does are similar to other pre-retirees in that they have both the willingness and capacity to sock away more money in the years leading up to their retirement. We can see in Figure 5 that there is a fairly constant, yet modest rate of improvement in their odds of success for each \$5,000 of incremental annual savings. Interestingly, we do not see as significant of an impact from this tradeoff as we do in delaying retirement or reducing future retirement spending. Perhaps this is because the six years between now and their ideal retirement date is not enough time for their increased savings to yield material benefits. The longer we allow for increased savings to accrue benefits, the greater impact this strategy would have on improving the potential for success.

**Figure 5: Save More**



Thus far, we have viewed the three potential strategies as independent levers. But a more practical plan might be an “all of the above” approach. For example, one might decide to retire one year later, spend 5% less, *and* save \$5,000 more annually before retirement. Using our same set of assumptions, this combined strategy would increase the probability of success from 46% to 77%. For many, this may be a more acceptable option than giving up two more years of retirement or being forced to reduce future spending by a more significant amount.

As in many areas of investing and financial planning, uncertainty often causes angst. It is no different in retirement planning, as investors want to know if their assets will be sufficient to support them through their retirements. Have they saved enough money to help sustain them once they decide to stop working? Or, for those already retired, will their current level of assets continue to allow them to meet their ongoing spending needs? While there are many different ways to try to answer these questions, simulations can be an effective and robust tool for individuals to help gauge the likelihood of achieving their retirement goals. For many, their ideal scenarios may have less than optimal prospects for success, and hence plenty of uncertainty. In such cases, compromises may need to be made in order to improve the chances of retirement success. Generally, the options come down to retiring later,

accepting a lower spending objective during retirement, and if time is on their side, saving more before retirement. Our analysis shows there is a strong correlation between making these tradeoffs and achieving better financial security.

Importantly, we have focused solely on the economic impact of these tradeoffs. To be sure, working longer than one had envisioned to improve the odds of success by some marginal degree may not be emotionally palatable. Certain individuals may derive a greater quality of life by retiring when they choose and will gladly compromise on their potential spending capacity to do so. Some may also worry about the value of deferring retirement for several years when there are no guarantees of maintaining good health into the future. These are all sensitive issues that often transcend economic rationale. Thus, individual preferences and circumstances may yield a wide range of potentially feasible solutions.

The information contained herein is intended to be for illustrative purposes only and should not be interpreted as advice. Assumptions used in the analysis are in no way intended to reflect reality. Future investment returns and rates of inflation may differ markedly from projections. Simulation results were obtained using MoneyGuidePro®, ©PIEtech, Inc. Individual circumstances may lead to outcomes that are dramatically different from those indicated herein. Please contact Kanawha Capital Management for a more detailed explanation of our financial planning approach.