LOOKING BEHIND THE NUMBERS: METHODS OF RETIREMENT INCOME ANALYSIS

Answering the question: "Where did the numbers come from?"

RAYMOND JAMES®

MAKE RETIREMENT INCOME PLANNING EASIER FOR YOUR CLIENTS TO UNDERSTAND

Your clients are looking to you for solutions and answers to their concerns about retirement. After all, nothing less than their standard of living for the rest of their lives is at stake here.

Retirement income analysis tools are helpful, but their ability to calm the concerns of your clients is only possible if your clients know how they work and understand the results they generate. This document is designed to help you understand the "math" behind these tools so you can more clearly convey this information to your clients. The primary methods we will cover here are withdrawal rates and Monte Carlo.

SUSTAINABLE WITHDRAWAL RATE

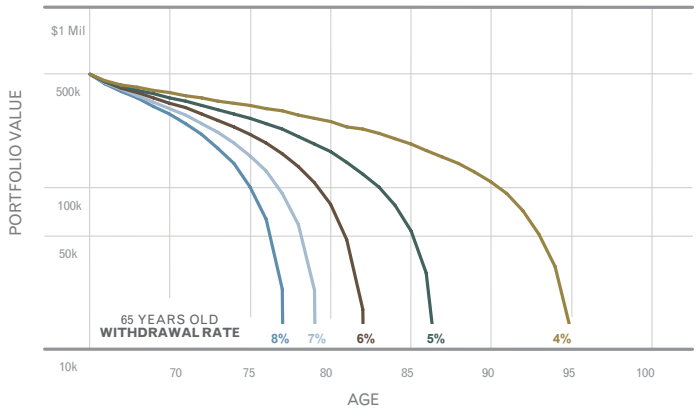
Understanding and setting withdrawal rates is one of the most important aspects of a sustainable retirement income plan. It sets client expectations as to what level of spending they can maintain while still feeling confident they will not run out of money.

The most basic approach is to withdraw a specific percentage of the portfolio each year. To be sustainable, the percentage must be based on assumptions about the future, such as how long the client will need their portfolio to last, rate of return and other factors. It also must take into account the effect of inflation.

EXAMPLE: SUSTAINABLE WITHDRAWAL RATE

John has a $500,000 portfolio when he retires. He estimates that withdrawing $20,000 a year (adjusted for inflation) will be adequate to meet his expenses. John's sustainable withdrawal rate is 4%, and he must make sure his portfolio is designed so he can continue to take out 4% (adjusted for inflation) each year.

SIMULATED PORTFOLIO VALUES (90% CONFIDENCE LEVEL)



The accompanying graph was created using Monte Carlo parametric simulation. This image looks at a hypothetical 50% stock/50% bond portfolio and the effect various inflation-adjusted withdrawal rates have on the end value of the portfolio over a long payout period. This model estimates the range of possible outcomes based on a set of assumptions including arithmetic mean (return), standard deviation (risk) and correlation for a set of asset classes. The inputs used herein are the historical 1926 – 2009 figures. The risk and return of each asset class, cross-correlation, and annual average inflation over this time period follow. Stocks: risk 20.5%, return 11.8%; Bonds: risk 5.7%, return 5.5%; Correlation -0.01; Inflation: return 3.1%.

Note that other investments not considered may have characteristics similar or superior to those being analyzed. Each simulation produces 35 randomly selected return estimates consistent with the characteristics of the portfolio to estimate the return distribution over a 35-year period. Each simulation is run 5,000 times, to give 5,000 possible 35-year scenarios. A limitation of the simulation model is that it assumes the distribution of returns is normal. Should actual returns not follow this pattern, results may vary. IMPORTANT: Projections generated by Morningstar regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results. Results may vary over time and with each simulation. Past performance is no guarantee of future results. An investment cannot be made directly in an index. This is for illustrative purposes only and not indicative of any investment. Source: Created by Raymond James using Ibbotson Presentation Materials

PERFORMANCE-BASED WITHDRAWAL RATE

An alternative approach is the performance-based withdrawal rate. With this approach, your client establishes an initial withdrawal rate, then varies that percentage from year to year, depending on the portfolio's performance and adjusting for inflation.

Each year's withdrawal percentage is based on the previous year's spending and portfolio performance. In years of poor performance, a portfolio's return might be lower than your client's target withdrawal rate. In that case, your client would reduce the amount he or she takes out of the portfolio the following year.

Conversely, in a year when the portfolio exceeds your client's expectations and performance is above average, he or she may withdraw a larger amount. The key here is the ability for the client to easily adjust their spending. If he or she withdraws higher amounts during good years, they must be certain they can reduce spending appropriately during years of lower returns; otherwise, there is a greater risk of exhausting the portfolio too quickly.

Having other sources of reliable, fixed income could make it easier to cushion potential income fluctuations from a performance-based withdrawal rate and to handle emergencies that require your client to spend more than expected.

EXAMPLE: PERFORMACE-BASED WITHDRAWAL RATE

Fred has a $2 million portfolio and withdraws $80,000 (4%) at the beginning of his first year of retirement. By the end of the year, the remaining portfolio balance has returned 6%, or $115,200 – more than the $80,000 he withdrew.

For the upcoming year, Fred decides to withdraw 5% of his portfolio, now worth $2,035,200 ($2 million - $80,000 + $115,200 = $2,035,200). That will give him $101,760 in income for the year and leave his portfolio with $1,933,440.

However, during December of the second year, his portfolio experiences a 7% loss; by the end of the year, the portfolio has been reduced by the $101,760 Fred withdrew at the beginning of the year, plus the 7% investment loss. Fred's portfolio is now worth $1,798,099. Fred must reduce his withdrawals in the third year of his retirement to ensure he doesn't run out of money too soon.

This hypothetical illustration does not take taxes in account and assumes all withdrawals are made at the beginning of the year.

CONVENTIONAL WISDOM OF WITHDRAWAL RATES

The process of determining an appropriate withdrawal rate continues to evolve. As baby boomers retire and individual savings increasingly represent a larger share of retirement income, there has been more research on how best to calculate withdrawal rates.

William Bengen conducted the seminal study[1] on what is sustainable for tax-deferred retirement accounts. He looked at the annual performance of hypothetical portfolios that are continually rebalanced to achieve a 50-50 mix of large-cap (S&P 500 index) common stocks and intermediate-term Treasury notes. The study took into account the potential impact of major financial events such as the early Depression years, the stock decline of 1937-41 and the 1973-74 recession.

The study found that a withdrawal rate of slightly more than 4% would have provided inflation-adjusted income for at least 30 years. More recently, Bengen used similar assumptions to show that a higher initial withdrawal rate – closer to 5% – might be possible during the early, active years of retirement if withdrawals in later years grow more slowly than inflation.

Other studies have shown that broader portfolio diversification and rebalancing strategies can also have a significant impact on initial withdrawal rates. In an October 2004 study[2], Jonathan Guyton found that adding asset classes, such as international stocks and real estate, helped increase portfolio longevity (although these asset classes have special risks).

Another strategy Guyton used in modeling initial withdrawal rates was to freeze the withdrawal amount during years of poor portfolio performance. By applying so-called decision rules that take into account portfolio performance from year to year, Guyton found it was possible to have "safe" initial withdrawal rates above 5%.

[1]William P. Bengen, "Determining Withdrawal Rates Using Historical Data," Journal of Financial Planning, October 1994.
[2]Jonathan T. Guyton, "Decision Rules and Portfolio Management for Retirees: Is the 'Safe' Initial Withdrawal Rate Too Safe?" Journal of Financial Planning, October 2004.

FORECASTING OUTCOMES

Advisors today use a variety of approaches to illustrate the potential outcomes for client portfolios in retirement. Let's evaluate those approaches and how using a combination might be more effective for ensuring the best outcomes.

A KEY CAVEAT

All financial forecasts must account for variables such as inflation rates and investment returns. The catch is that these variables have to be estimated, and the estimate used is critical to a forecast's results.

Estimating investment returns is particularly difficult. The volatility of stock returns makes short-term projections almost meaningless. Multiple factors influence investment returns, including events such as natural disasters and terrorist attacks, which are unpredictable. So, it's important to understand how different forecasting methods handle this inherent uncertainty.

BASIC FORECASTING METHODS

Straight-line forecasting methods assume a constant value for the projection period. For example, a straight-line forecast might show that a portfolio worth $116,000 today would have a future value of approximately $250,000 if the portfolio grows by an annual compounded return of 8% for the next 10 years. A "bad-timing" approach to forecasting illustrates the impact on long-term sustainability of retiring during down markets and is a more conservative approach to straight-line forecasting.

Forecasting methods that utilize "scenarios" provide a range of possible outcomes. Continuing with the 10-year example above, a "best-case scenario" might assume that your client's portfolio will grow by an average 12% annual return and reach $360,000. The "most-likely scenario" might assume an 8% return (for a $250,000 value), and the "worst-case scenario" might use 4%, resulting in a final value of roughly $171,000. Scenarios give your client a better idea of the range of possible outcomes.

PROS AND CONS OF BASIC FORECASTING METHODS

PROS

- Easy for advisors to explain and clients to understand
- Bad timing can show the impact of retiring in a down market (very relevant in recent years)

CONS

- Returns aren't typically that consistent from year to year – one bad year can throw off the whole plan
- Aren't very precise in estimating the likelihood of any scenario

FORECASTING WITH MONTE CARLO

Forecasts that use Monte Carlo analysis are based on computer-generated simulations, which rely on models to replicate the behavior of economic variables, financial markets and different investment asset classes.

WHY IS A MONTE CARLO SIMULATION USEFUL?

In contrast to more basic forecasting methods, a Monte Carlo simulation explicitly accounts for volatility, especially of investment returns. It enables your client to see the spectrum of thousands of possible outcomes, taking into account not only the many variables involved, but also the range of potential values for each.

By attempting to replicate the uncertainty of the real world, a Monte Carlo simulation can actually provide a detailed illustration of how likely it is that a given investment strategy will meet your client's needs. For example, when it comes to retirement planning, a Monte Carlo simulation can help you answer questions, such as:

- Given a certain set of assumptions, what is the probability that your client will run out of funds before age 85?
- If that probability is unacceptably high, how much additional money would your client need to invest each year to decrease the probability to 10%?

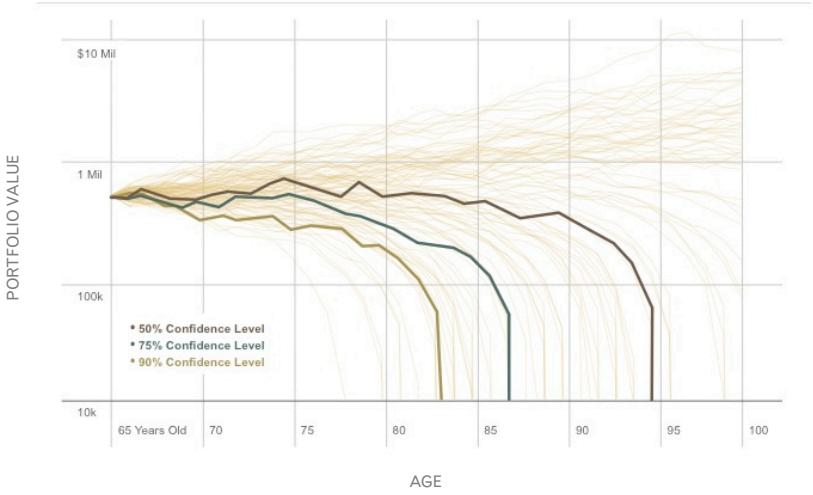
THE MECHANICS OF A MONTE CARLO SIMULATION

A Monte Carlo simulation typically involves hundreds or thousands of individual forecasts, or "iterations," based on data that your client provides (e.g., portfolio, time frames and financial goals). Each iteration draws a result based on the historical performance or forward-looking capital market assumptions of each investment class included in the simulation.

EXAMPLE: MONTE CARLO SIMULATION

A Monte Carlo simulation performs 1,000 iterations using your client's current retirement assumptions and investment strategy. Of those 1,000 iterations, 800 indicate that your client's assumptions will result in a successful outcome; 200 iterations indicate your client will fall short of his or her goal. The simulation suggests your client has an 80% chance of meeting their goal.

SIMULATION CAN ILLUSTRATE THE PROBABILITY OF ACHIEVING OUTCOMES



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PROS AND CONS OF MONTE CARLO SIMULATIONS

PROS

- Helps illustrate how client decisions can impact outcomes
- Takes into account multiple outcomes
- Can illustrate how changes to approach can improve outcomes

CONS

- More complicated to explain to clients
- Might show a very high probability that you'll achieve your financial goals, but it can't guarantee that outcome

The strongest argument for Monte Carlo is that it can illustrate how changes to your client's plan can affect his or her odds of achieving their goals. Combined with periodic progress reviews and plan updates, Monte Carlo forecasts can help your client make better-informed investment decisions.

ENHANCING YOUR REPUTATION AS A RETIREMENT INCOME SPECIALIST

By successfully explaining these analysis tools and findings to your clients, you provide a valuable service and enhance your reputation as a specialist in retirement income – an area of expertise that continues to grow in demand as more and more of the baby boomer generation retire.

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INTERNATIONAL HEADQUARTERS: THE RAYMOND JAMES FINANCIAL CENTER

880 CARILLON PARKWAY // ST. PETERSBURG, FL 33716 // 800.248.8863

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