STEPUP

Sales Tax Estate Planning Underwriting & Product Newsletter

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2nd in a series

The first session covered some key investor concerns and issues approaching retirement. People are used to hearing about long term average rates of return. The same averages and patterns of returns operate quite differently when comparing saving money for retirement and spending it during retirement. Here we will take a deeper look at how the order of rates of return may lead to disorder in terms of how long money and income may last during the retirement years.

Rate of Return and Impact on Accumulation vs. Withdrawal periods

Averages, when applied to rates of return, can be misleading and deceptive when the same averages and the patterns that make up those averages are used both for accumulation and decumulation. The pattern of returns can dramatically impact asset size, most keenly felt when withdrawing income/assets to meet expenses, to cover both basic and lifestyle needs.

The following set of scenarios shows, quite dramatically, that the assumptions and averages that are used in conversations between customers and advisors during the accumulation phase can be quite forgiving. Different patterns averaged out yield the same result.

Let's consider three rates of return scenarios. In all cases, the average annual rate of return over 10 years is 7% per year.

Assuming: **$100,000** deposit for decumulation comparison
$100,000 starting balance for withdrawals
$7,000 annual withdrawal for withdrawal comparison

Let's assume someone invests $100K, expecting to get an average annual rate of return of 7% over a 10 year period. If they earned exactly 7% each year as in scenario A, at the end of 10 years, the investment would have grown to $196,715.

Naturally, no one is able to get that precise pattern in today's market.

Peter works with independent advisors and other professionals raising awareness on issues and concerns faced by affluent individuals, professionals and business owners. He supports efforts in researching and developing optimal solutions for clients aimed at improving their financial well-being and supporting their personal wishes and lifestyles. He has provided 1000s of workshops, seminars and technical support throughout the country on tax, retirement income and estate planning issues, concepts and strategies to both advisors and consumers. As an accredited Registered Financial Gerontologist, a good deal of his time is spent on building awareness and educating people of all professions who work with or specialize in the needs, expectations and issues of elders. Comprehensive lifestyle planning is an important element of these processes.

The Sales, Tax, Estate Planning, Underwriting & Product (STEPUP) team provides internal and broker support, including seminars, education, advanced concept illustrations & Client case technical consultations.

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Accumulation Math

Return %											Average Return	Accumulation Value
Year	1	2	3	4	5	6	7	8	9	10		
A	7	7	7	7	7	7	7	7	7	7	7%	$196,715
B	9.4	14	13	23	-4	10	-1	21	-4	-7	7%	$196,715
C	-7	-4	21	-1	10	-4	23	13	14	9.4	7%	$196,715

Let's now look at scenario B. Although the rates of return in the first four years all exceed 7%, there are some years where returns are negative, that is to say, the investment lost money. The 10 year average here is still 7%. The end value of the investment is once again $196,715.

What happens if the pattern of returns in scenario B is simply reversed? The investment loses money in the early years and has strong performance in the last 4 years? Here again, the average rate of return is still 7%. The end value of the investment is once again $196,715.

There's nothing magical about this. It's simple math. We all learned in grade school that when you are multiplying a series of numbers, it doesn't matter what the order of the numbers is. The result is the same.

Withdrawal math

Now let's see what happens if the investor starts off with the same $100K and wants to withdraw a set percentage or amount of money from their investment each year. We have the same three investment patterns. This time, the investor expects to earn 7% on their money while taking out $7,000 each year to spend on their lifestyle. The experience is quite different during the decumulation or spending phase. Here the patterns of return, though averaging the same, yield quite different results. This shows how much the rates of return in the early years of withdrawal impact how long an asset can provide income.

Return %											Average Return	Accumulation Value	Withdrawal Value
Year	1	2	3	4	5	6	7	8	9	10			
A	7	7	7	7	7	7	7	7	7	7	7%	$196,715	$100,000
B	9.4	14	13	23	-4	10	-1	21	-4	-7	7%	$196,715	$117,986
C	-7	-4	21	-1	10	-4	23	13	14	9.4	7%	$196,715	$83,150

30%

In scenario A, if the rate of return is exactly 7% each year and the investor withdraws $7000, what do you expect the value of the investment to be at the end of 10 years? If you answered $100K, you would be right. The investor appears to be spending only the growth on their investment each year.

Here again, reality runs up against this ideal, steady rate of return.

In scenario B, the investor experiences a rate of return higher than 7% in the early years and a negative rate of return in the last couple of years with some erratic returns in between. Each year, regardless of performance, the investor withdraws $7,000. At the end of the 10th year, the balance in the investment has actually grown from the initial value of $100K to $117, 986.

Now, what happens if the order of investment returns is the reverse of scenario B. Instead of having some good performance years up-front where the actual rate of return is greater than the target rate of 7%? The investor still needs $7,000 each year. The balance in the investment after 10 years has dropped to $83,150.

Here lies a key influencer in the result. In the early years, the investment experienced losses in rates of return, earning negative rates of return. On top of that, the investor withdrew 7% of the initial investment or $7,000 each year. That means in year one for example, the investment lost 7% and the investor withdrew 7%. That reduced the value of the investment by 14%. A similar thing happened in year 2, year 4 and year 6. The fact that performance was better than the target rate of 7% in the last 4 years did not make up for losses in the early years of withdrawals plus the monies that were withdrawn and not available to take advantage of the positive years of investment performance that followed.

There is a $34,836 difference between scenario B and C. And that's just after 10 years That's just under 5 years of income! If future performance between the three scenarios repeats itself, then the investor will run out of money under scenario C. A key worry is running out of money when the investor is still alive and reliant on that cash flow for perhaps a number of years to come.

Peter Wouters

Related articles and resources

GWB Order to Disorder series 1 of 7: The Risk of Longevity

GWB Order to Disorder series 3 of 7: When did you get on the rate of return cycle

GWB Order to Disorder series 4 of 7: What is a Guaranteed Withdrawal Minimum Benefit (GMWB)?

GWB Order to Disorder series 5 of 7: Investor behaviour

GWB Order to Disorder series 6 of 7: Calculating guaranteed retirement income

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