

Understanding Withdrawal Rate Risk

As pensions have continued to be a less common source of retirement income, it has become necessary to develop alternative approaches to generating retirement income. A quick search of the internet will yield an almost limitless number of approaches and theories on how to generate retirement income effectively. However, many of today's approaches build off the research William Bengen published in 1994. His research around the safe withdrawal rate continues to receive attention and is the source of considerable debate.

ORIGINS OF THE 4% WITHDRAWAL RATE

In October 1994, William Bengen published an article in the Journal of Financial Planning entitled, "Determining Withdrawal Rates Using Historical Data." While Bengen was not the first to look at withdrawal rates, his article set the stage for a debate many financial professionals still have today. How much can safely be withdrawn from a retirement portfolio to ensure a lifetime of income?

Bengen's research concluded that for a 60-65-year-old retiree, a 50/50 allocation between stocks and bonds with a withdrawal rate of 4% of the initial portfolio value, adjusting annually for inflation, could generate retirement income for 30 years. Bengen's research caught many by surprise. Prior to Bengen's article, it was difficult to find guidance on how much could be withdrawn from a retirement portfolio. Pensions and Social Security were still commonplace, so the need for guardrails was not nearly as great as today. As a result, it was not uncommon to see substantially higher withdrawal rates or no such guardrails in place.

Fast forward to today and you will see many have begun to question Bengen's 1994 research. Bengen's research did not account for taxes, fees, or increased longevity. Furthermore, Bengen's historical data only looked at US markets, large-cap equities, and government bonds. However, these issues do not in and of themselves invalidate Bengen's research. The larger problem stems from the old disclosure; past performance is no guarantee of future results.

HISTORY IS OUR GUIDE

Bengen's analysis used historical data of the S&P 500 index and intermediate US treasuries. As a result, the issue of concern with Bengen's research is today's historically low interest rate environment and its impact on bond returns. The mathematical relationship between changes in interest rates and bond returns is well established. Rising interest rates result in decreases in bond values. And if interest rates remain unchanged, then the only return on a bond will be the yield generated by the bond. As a result, today's low bond interest rates mean low bond returns in the future.

Since interest rates on bonds are at such low rates and Bengen's analysis used historical data, it is important to see if history is any guide for today's bond market. Unfortunately, the only time we have seen rates this low was for a brief period in the 1940s. During that time, the lowest the 10-year Treasury hit was 1.54% on April 5, 1946.

After 1946, rates on the 10-year Treasury began to rise. As a result, a withdrawal rate approach in the 1940s would have been problematic if not for the performance of equities. Coming off the Great Depression, stocks were considered undervalued in the early 1940s. Therefore, the long-term performance of stocks was able to offset the low interest rate environment and subsequent performance of bonds, thus rescuing a 4% withdrawal rate.

Today, interest rates are lower than the previous historical lows of the 1940s. As a result, the 4% withdrawal rate, and the reasoning that developed it, is being called into question. Bengen’s research showed a 4% withdrawal rate succeeding in generating income for 30 years in nearly all cases. However, research today, taking into consideration the current interest rate environment, shows a 4% withdrawal rate with success rates of approximately 50%.

CHALLENGES OF WITHDRAWAL RATES

In 2013, Morningstar published a report entitled “Low Bond Yields and Safe Portfolio Withdrawal Rates.” Its goal was to look at the impact historically low bond yields would have on the success rates of different withdrawal rate strategies. Morningstar concluded that withdrawal rates would need to be significantly lower than 4% to have a high probability of success.

Initial Withdrawal Rates for Various Equity Allocations, Retirement Periods, and Probabilities of Success ⁽¹⁾

		Retirement Period (Years)													
		15	20	25	30	35	40	15	20	25	30	35	40		
Probability of Success (%)	20% Equity Allocation							40% Equity Allocation							
	99	5.0	3.6	2.8	2.2	1.9	1.6	4.6	3.3	2.5	2.1	1.8	1.6		
	95	5.4	4.0	3.1	2.6	2.2	1.9	5.2	3.9	3.1	2.6	2.2	2.0		
	90	5.7	4.2	3.3	2.7	2.3	2.1	5.6	4.2	3.4	2.8	2.5	2.2		
	80	6.0	4.4	3.5	3.0	2.6	2.3	6.1	4.6	3.7	3.2	2.8	2.5		
	50	6.6	5.0	4.1	3.4	3.0	2.7	7.0	5.5	4.5	3.9	3.5	3.2		
Probability of Success (%)	60% Equity Allocation							80% Equity Allocation							
	99	3.9	2.8	2.2	1.9	1.5	1.3	3.4	2.3	1.8	1.4	1.2	1.1		
	95	4.9	3.6	2.8	2.4	2.0	1.8	4.4	3.2	2.6	2.1	1.8	1.6		
	90	5.4	4.0	3.2	2.7	2.4	2.2	5.1	3.8	3.0	2.6	2.2	2.0		
	80	6.1	4.6	3.8	3.2	2.9	2.6	5.8	4.6	3.7	3.2	2.8	2.6		
	50	7.4	5.9	4.9	4.3	3.9	3.6	7.8	6.2	5.3	4.6	4.2	3.9		

Subsequent research has stated that withdrawal rates should be even lower than Morningstar’s research. Research by Dr. Wade Pfau, T. Rowe Price, Blackrock, and others have yielded similar conclusions.⁽²⁾ Today’s low interest rate environment challenges the underlying assumptions made by Bengen when developing the 4% safe withdrawal rate.



IMPACT OF LOWER WITHDRAWAL RATES

The impact of lower withdrawal rates can be substantial. Consider the assets required to generate \$40,000 a year in income:

$$\begin{aligned} & \textbf{4\% Withdrawal Rate} \\ & \$1,000,000 \times 4\% = \$40,000 \end{aligned}$$

$$\begin{aligned} & \textbf{2.4\% Withdrawal Rate} \\ & \$1,666,666 \times 2.4\% = \$40,000 \end{aligned}$$

$$\begin{aligned} & \textbf{1.9\% Withdrawal Rate} \\ & \$2,105,263 \times 1.9\% = \$40,000 \end{aligned}$$

The additional assets required to generate the same level of income across different withdrawal rates is substantial. Of course, individuals may elect to stay the course and not lower the withdrawal rate if they are willing to accept a lower probability of success. However, when faced with what failure looks like, it is unlikely that many individuals would accept failure rates that exceed 20 or 30%.

As a result, to generate the same income level that a 4% withdrawal rate would provide, individuals would need to either grow their existing assets or look to other vehicles to generate the desired level of income. But consider the rate of return that would be required to close the gap between a 4% and 1.9% withdrawal rate:

Assume an individual currently has \$750,000 of existing assets and will retire in 10 years
Net annual return required to grow to \$1,000,000: 2.92%
Net annual return required to grow to \$2,105,263: 10.87%

Assume an individual currently has \$750,000 of existing assets and will retire in 5 years
Net annual return required to grow to \$1,000,000: 5.92%
Net annual return required to grow to \$2,105,263: 22.93%

For individuals approaching retirement, the returns required may mean taking on additional risk or may even prove not to be possible. As a result, the use of alternative retirement vehicles may be required.

ALTERNATIVES

Fixed index annuities (FIAs) may be one potential solution to address lower withdrawal rates. FIAs, and annuities in general, can potentially provide more guaranteed income when compared to a pure withdrawal rate strategy. How might an annuity potentially provide more guaranteed income? Pooled risk.

By pooling the risks of retirement across potentially tens of thousands, or even hundreds of thousands of retirees, insurance companies can create a benefit known as mortality credits. Mortality credits are the result of individuals dying sooner than expected. If an annuity owner dies sooner than expected, that individual will not receive as many income payments had they have lived to life expectancy or beyond. Those payments are then returned to the pool and allocated to the surviving members of the risk pool.

It is important to note that only an insurance company can create mortality credits. Individuals are unable to pool the risks of retirement. As a result, the risks of rising interest rates, market volatility, longevity, and so on must be borne by the individual. All the risks cannot be transferred away without pooling or great expense. As a result, FIAs may be an attractive addition for a portion of an individual's retirement portfolio.

By using mortality credits, an FIA may help close the potential retirement savings gap created by withdrawal rate strategies. Consider the following example. Two clients both have a portion of their savings, \$550,000, that they would like to use to generate retirement income. Both intend to retire in five years and wish to generate \$40,000 a year income from this portion of their retirement savings.

Client A intends to use a drawn down strategy withdrawing 4% annually. To generate the \$40,000 a year in retirement income, Client A's \$550,000 needs to grow to \$1 million. That would require using this portion of Client A's portfolio to earn an annual rate of return of 12.72%, net of fees and taxes, over the next five years.

Alternatively, Client B utilizes an FIA. Client B places the \$550,000 into the FIA and defers taking income for five years. In exchange for deferring for five years, the insurance company guarantees that Client B will receive a lifetime payment of \$40,000 per year. To put it another way, Client B's \$550,000 has a relative income value of \$1 million when comparing the FIA to a 4% withdrawal rate strategy.

FIAs are designed to be long-term vehicles that offer a myriad of design options. The availability of income benefit riders, which may be offered either built-in or for an additional cost, can provide retirees with lifetime income. Such lifetime income options can complement a retiree's other retirement assets to build a comprehensive retirement income plan.

⁽¹⁾ https://new.morningstar.com/pdfs/blanchett_lowbondyield_1301291.pdf

⁽²⁾ <https://www.jgcwealth.com/pub/doc/Withdrawal-Rates-Blackrock.pdf>

Fixed index Annuities are designed to meet long-term needs for retirement income. Early withdrawals may result in loss of principal and credited interest due to surrender charges. Withdrawals are subject to ordinary income tax and, if taken prior to 59½, a 10% federal tax penalty. Guarantees are backed by the financial strength and claims-paying ability of the issuing insurance company.