



## Is the Safe Withdrawal Rate Still 4%?

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One of the most important (and vexing) questions retirees have is how much money can they withdraw from their portfolio annually without fear of exhausting their savings. Likewise, those in the process of saving for retirement want to know when they have saved enough.

Fortunately, there is a large body of research on the topic and, in this note, I try to distill key findings down to some simple guidelines. I also directly address the concern many have today that whatever worked in the past may not work in the future given prospective low stock market returns and higher inflation over the next decade or more.

### What is the safe withdrawal rate?

The safe withdrawal rate is the percentage of the portfolio an investor can withdraw in the first year of retirement, with the amount adjusted for inflation in subsequent years, which has been found capable of surviving any 30-year sequence of investment returns in history. Withdrawals are assumed to take place at the start of the year and assume that any taxes owed are paid from the amount withdrawn. The original research conducted almost 20 years ago determined the **safe rate to be 4.1%**, based on a 50% stock / 50% bond allocation.

For example, say you retire with a \$1.0 million portfolio. The rule says that you can safely withdraw

\$41,000 in your first year of retirement and adjust up for inflation in every subsequent year. If you don't think you can live on \$41,000, plus Social Security and any other income sources you may have, then you may need to postpone your retirement. If you choose to withdraw more than \$41,000 (plus cumulative inflation) annually, especially in the early years of retirement, you increase the risk of exhausting your portfolio in less than 30 years.

Note that this is not the traditional "spend only portfolio income" rule. First, such a rule, by definition, leads to the preservation of principal, whereas the 4% rule is only aiming for a positive balance at the end of the 30-year horizon. Second, such a rule can lead to wide swings in one's standard of living and an intolerably low level in response to a string of poor portfolio returns and low interest rates. Most people prefer a spending rule that smoothes their consumption over time so that they don't experience wide swings in living standards. This is what the 4% rule accomplishes.

### What does the newer research tell us?

#### *Time horizon of retirement matters*

Numerous studies have been conducted since the original research was published. One obvious finding is that time horizon matters. On this point, most researchers have found a **safe withdrawal rate of around 3.5% for a 40-year time horizon and 5.5% for a 20-year horizon**. Moreover, for longer time



horizons, the optimal equity exposure increases from 50% to closer to 60%. Likewise, for shorter time horizons, the higher withdrawal rate can be supported at closer to a 30% equity exposure.

### ***Diversification matters***

More recent research also tells us that greater portfolio diversification helps increase the safe withdrawal rate. The original research only assumed a two-asset class portfolio of U.S. large company stocks and U.S. intermediate government bonds. Subsequent studies have examined the impact of diversifying into smaller company stocks, international equities, and even commodities and real estate. These studies show that diversification improves and stabilizes long-run returns and, in so doing, is supportive of a higher withdrawal rate. **Most researchers peg a safe withdrawal rate of 4.5%-5.0% for significant portfolio diversification.** Equally important, the newer research concludes that reducing equity exposure over time has a very limited benefit to the initial safe withdrawal rate.

### ***Spending flexibility is critical***

The safe withdrawal rate rule assumes that retirees will withdraw the same amount of (inflation-adjusted) dollars every year throughout retirement, regardless of whether they need to. It also assumes that they withdraw the same amount in both bull and bear markets. The first point centers on whether retiree spending remains constant throughout their retirement. There is indeed a fair bit of new research on this topic alone (the likely subject of my next brief). Not surprisingly, the research supports **a modest 0.3-0.5% increase in the initial safe withdrawal rate if the retiree is confident his/her spending needs will decline in the later years of retirement.**

The more important finding, in my view, is how the safe withdrawal rate can be improved if retirees are willing

to adjust withdrawals based on actual portfolio performance. One study suggests a method whereby withdrawals increase during bull markets, but not by more than 25% above the value of the first year's withdrawal, and decline during a bear market but not by more than 10% below the real value of the initial withdrawal. **Utilizing this dynamic withdrawal rule, the author found that a portfolio can sustain a withdrawal rate closer to 4.6%**

### ***Timing of retirement is also key***

Other researchers have focused on the question of whether the safe withdrawal rate is sensitive to market valuation on the date of retirement. In other words, should those who retire when the market is overvalued (e.g., year 2000) and expected to decline in the next few years utilize the same initial withdrawal rate as those who retire when the market is deemed to be undervalued and likely to increase. **Most of the research concludes that one can increase the initial safe withdrawal rate by 0.5% if he or she happens to retire when the market is fairly valued, and by up to 1.0% in a very favorable valuation environment.**

What about those who retired in 2000 when the market was very overvalued? Interestingly, the 4.0% rule is holding so far (we now have 12 years of data), even in the face of lackluster average annual portfolio returns (~5.4% in one author's study) from 2000-2012. The reason is that inflation has also been low during the same time frame (~2.5% on average), limiting the inflation adjustment year-2000 retirees have needed to make to maintain the real value of their initial withdrawal.

This result tells us a lot about what the riskiest scenarios might be: retiring when the market is overvalued and about to suffer a string of poor years, and/or retiring just before the onset of high inflation. This is



another way of saying that sequence of investment returns matter a lot. A retiree with low returns early in retirement will probably have trouble later in retirement. Likewise, high inflation early in retirement can result in a rapid escalation of withdrawals and depletion of the portfolio.

### Putting it All Together

One outstanding research question is whether these different factors are precisely additive. In other words, can one start with 4.0%, then add say 0.75% for committing to a fully diversified portfolio throughout retirement, add another 0.5% for committing to adjust spending in different market environments, and add another 0.5% for being lucky enough to retire when the market is fairly or somewhat undervalued, and so on. The absence of definitive research on the topic suggests some caution is warranted.

For those retiring now, caution is also warranted because experts are increasingly predicting low investment returns and higher inflation over the next decade or more. As we have learned, these two factors are crucial for portfolio longevity.

### The Bottom Line

**The baseline safe withdrawal rate is still 4% for those retiring now.** But the rate may need to be adjusted for today's retirees in coming years if low investment returns persist and inflation ramps up.

If you are in the last decade before your retirement, the best you can do right now is to try to maximize your savings. This is because what happens to portfolio growth in the last decade before retirement is the single most important determinant to the ultimate size of the portfolio, and the stock market may not do the work for you over the next decade. (This dependency is also known as the “portfolio size effect” — a given percent change in portfolio value has a larger absolute dollar impact the larger the portfolio is to begin with.)

If you are about to retire with a 30-year horizon, start with the 4% rule and then ask yourself a few questions:

- Will you have the discipline to trim your withdrawals if the market delivers a string of poor returns in the future or if inflation ramps up?
- Will you be comfortable maintaining 40% or more of your assets in stocks during your retirement years? Put differently, can you tolerate some volatility?
- Will you be comfortable holding a fully diversified portfolio throughout your retirement years?
- Do you believe the stock market is fairly or somewhat undervalued in the year you retire?

If the answer to most of these questions is no, and you are one of those who believe “the new normal” is a world of lower overall portfolio returns, then plan for an initial rate of 4%. If the answer to most of these questions is yes, then start with 5%. But I wouldn't go any further.

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