Retirement Planning and Worst-Case Scenarios

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New research suggests that skepticism in a 4% safe withdrawal rate (SWR) is well justified. It is perhaps due to good luck that American retirees have not yet experienced a withdrawal rate below 4%. But a better approach than worrying about SWRs is to focus on the savings rate needed to meet your retirement spending goals, not on what the safe withdrawal rate is.

New research published in the July 2011 *Journal of Financial Planning*, A Safer Safe Withdrawal Rate Using Various Return Distributions by Manoj Athavale and Joseph M. Goebel, got me thinking about *low* SWRs.

The popular rule of thumb in the United States is that with a stock allocation in the range of 50% to 75%, a 4% initial withdrawal rate from assets at retirement will allow for at least 30 years of withdrawals if adjusted for inflation in subsequent years.

Athavale and Goebel suggest that 2.52% is a better approximation for an SWR, based on the assumption that equity returns are not drawn from a lognormal distribution.

Though it has not happened yet in the United States, such a low sustainable withdrawal rate resonates as a possibility with me. As I explained in an article that appeared last year, An International Perspective on Safe Withdrawal Rates: The Demise of the 4 Percent Rule?, the United States enjoyed remarkable asset returns in the 20th century, while things didn't go nearly as well in other developed countries.

Here are some results that I cut from that paper because of space constraints. In the years since 1926, the 4% rule would have failed retirees with a 50/50 asset allocation in 10 of the 17 developed countries more than 25% of the time. These countries include the Netherlands, Norway, Australia, Ireland, Spain Belgium, Germany, France, Italy and Japan. Remarkably, the 4% rule would have failed more than 70% of the time in Spain and Italy. A 50/50 allocation would have allowed for a maximum sustainable withdrawal rate of only 0.24% for a Japanese person entering retirement in 1937. The broader message is that the only truly safe withdrawal rate is 0%.

Considering the broader international data, it is really just a matter of time before a situation arises in which a cohort of American retirees experience a 2.52% withdrawal rate. As more time passes, the lowest withdrawal rate we have experienced can only move downward. It's possible that the Americans who will experience this have already retired. I

discuss this possibility in Will 2000-Era Retirees Experience the Worst Retirement Outcomes in U.S. History? A Progress Report after 10 Years and also Can We Predict the Sustainable Withdrawal Rate for New Retirees?

So in the process of planning for retirement, what kind of withdrawal rate should we plan for?

Honestly, there is a better way to think about this whole issue.

Deciding on your safe withdrawal rate requires developing a wealth accumulation target for your retirement date. But as I argued in Getting on Track for a Sustainable Retirement: A Reality Check on Savings and Work, it is very difficult to know if you are on track for meeting your wealth accumulation target. The idea relies too much on an assumed fixed rate of return for the compounding growth on your wealth. Over short periods of time, returns vary greatly. Individuals who save for retirement over a 30-year period using a fixed savings rate end up with very different wealth accumulations (in real terms) by their retirement date.

What's more, the amount of wealth they have even five years before retirement provides little predictive power over their ultimate outcome. This is related to the portfolio size effect, which states that big changes in wealth occur just before retirement, when wealth is largest and changes by the biggest amount for a given percentage return.

Michael Kitces also got at the heart of this problem with his discussion of the logic of compounded returns. With the portfolio size effect, you can't really predict how much wealth you will end up with even five years before retirement, because you can't predict your returns over those five years. Those five years of returns may have a bigger impact on your total wealth than the first 15 or 20 years of your career, for instance.

If you can't predict your wealth accumulation at retirement, it is hard to know how much you can potentially withdraw using your safe withdrawal rate.

In Safe Savings Rates: A New Approach to Retirement Planning over the Life Cycle, I suggest doing away with wealth accumulation targets and SWRs. We can't control how much wealth we end up with at retirement. We can't control the maximum sustainable withdrawal rate we will experience in our retirement.

But we don't need to control them.

What we *can* control is how much we save and how we invest. To give an idea of the safe savings rate concept, consider someone who earns a constant real salary over a 30-year career and wants to save enough so that her wealth at retirement will cover 40 years of withdrawals equal to 50% of her salary (Social Security would be added on top of this). She also doesn't spend a lot of time worrying about her investments and simply uses a

60/40 asset allocation into low-cost index funds, rebalanced annually (I am assuming zero costs for this example).

In the worst-case scenario provided thus far by US history (since 1871), such a person would need an 18.63% savings rate for each of these 30 years to have enough wealth to enjoy the sustainable retirement under the terms she wants. I didn't say anything about what her wealth accumulation or withdrawal rates are, but whatever the wealth was and whatever the withdrawal rate needed to be, they worked out to allow her to successfully withdraw her planned expenditures over 40 years in every historical period.

This analysis is vulnerable to the same problem as the SWR analysis. Just as the US retirees in the future may lose in the cosmic lottery of suffering from a new worst-case withdrawal rate, in the future there may also be retirees who will find that they needed to save at a higher rate than their safe savings rate to enjoy the retirement they desire.

The savings rate is something you can control now. If you are worried about new worst-case scenarios and not having enough, then you should save even more than the safe savings rate. But how painful is it to save more? While it might be ideal to save with a 2.52% withdrawal rate in mind, it may not be practical. You don't wish to deprive yourself and your family of too much now, because the chances are small that you will experience this worst-case scenario.

But you also have to think about what will happen if the worst-case scenario does come to pass in retirement. Your wealth might be depleted while you are still alive, possibly leaving you with just Social Security benefits. So evaluate the trade-off between the sacrifices of saving more now and potential losses in the future, and just do the best you can. Decide whether you want to save more (or less) than your safe savings rate instead of targeting wealth needed for an SWR.

The more I think about SWRs and how low they might be, the less useful the concept becomes in my mind. There's not much we can do if the fate of our retirement year leads to disaster. But we can think about how much we can save and how long we want to work. Getting on Track for a Sustainable Retirement: A Reality Check on Savings and Work provides more guidelines about whether you are on the path for a sustainable retirement within a wide range of possibilities.

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