

# Sustainable Withdrawal Rates

## What is a sustainable withdrawal rate?

A withdrawal rate is the percentage that is withdrawn each year from an investment portfolio. If you take \$20,000 from a \$1 million portfolio, your withdrawal rate that year is two percent (\$20,000 divided by \$1 million).

However, in retirement income planning, what's important is not just your withdrawal rate, but your sustainable withdrawal rate. A sustainable withdrawal rate represents the maximum percentage that can be withdrawn from an investment portfolio each year to provide income with reasonable certainty that the income provided can be sustained as long as it's needed (for example, throughout your lifetime).

## Why is having a sustainable withdrawal rate important?

Your retirement lifestyle will depend not only on your assets and investment choices, but also on how quickly you draw down your retirement portfolio. Figuring out an appropriate withdrawal rate is a key factor in retirement planning. However, this presents many challenges and requires multifaceted analysis of many aspects of your retirement income plan. After all, it's getting more and more common for retirement to last 30 years or more, and a lot can happen during that time. Drawing too heavily on your investment portfolio, especially in the early years, could mean running out of money too soon. Take too little, and you might needlessly deny yourself the ability to enjoy your money. You want to find a rate of withdrawal that gives you the best chance to maximize income over your entire retirement period.

A sustainable withdrawal rate is critical to retirement planning, but it can apply to any investment portfolio that is managed with a defined time frame in mind. It's also fundamental to certain types of mutual funds that are managed to provide regular payments over a specific time period. For example, some so-called distribution funds, which are often used to provide retirees with ongoing income, are designed to distribute all of an investor's assets by the time the fund reaches its targeted time horizon. As a result, the fund must calculate how much money can be distributed from the fund each year without exhausting its resources before that target date is reached.

**Tip:** Each distribution fund has a unique way of addressing the question of a sustainable withdrawal rate. Before investing in one, obtain its prospectus (available from the fund), and read it so you can carefully consider its investment objectives, risks, charges, and expenses before investing.

## How does a sustainable withdrawal rate work?

Perhaps the most well-known approach is to withdraw a specific percentage of your portfolio each year. In order to be sustainable, the percentage must be based on assumptions about the future, such as how long you'll need your portfolio to last, your rate of return, and other factors. It also must take into account the effect of inflation.

**Example(s):** John has a \$2 million portfolio when he retires. He estimates that withdrawing \$80,000 a year (adjusted for inflation) will be adequate to meet his expenses. John's sustainable withdrawal rate is four percent, and he must make sure that his portfolio is designed so that he can continue to take out four percent (adjusted for inflation) each year.

## Other approaches to withdrawal rates

### A performance-based withdrawal rate

With this approach, an initial withdrawal rate is established. However, if you prefer flexibility to a fixed rate, you might vary that percentage from year to year, depending on your portfolio's performance. Each year, you would set a withdrawal percentage, based on the previous year's performance, that would determine the upcoming year's withdrawal. In years of poor performance, a portfolio's return might be lower than your target withdrawal rate. In that case, you would reduce the amount you take out of the portfolio the following year. Conversely, in a year when the portfolio exceeds your expectations and performance is above average, you can withdraw a larger amount.

**Example(s):** Fred has a \$2 million portfolio, and withdraws \$80,000 (four percent) at the beginning of his first year of retirement to help pay living expenses. By the end of that year, the remaining portfolio balance has returned six percent, or \$115,200--more than the \$80,000 he spent on living expenses. For the upcoming year, Fred decides to withdraw five percent of his portfolio, which is 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 that second year of retirement, his portfolio experiences a seven percent 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 seven percent investment loss. Fred's portfolio is now worth \$1,798,099. Fred reduces his withdrawals next year--the third year of his retirement--to ensure that he doesn't run out of money too soon. (For simplicity's sake, this hypothetical illustration does not take taxes in account, and assumes all withdrawals are made at the beginning of the year.)

**Caution:** If you hope to withdraw higher amounts during good years, you must be certain that you'll be able to reduce your spending appropriately during years of lower returns; otherwise, you could be at greater risk of exhausting your portfolio too quickly.

And be sure to take inflation into account. Having other sources of reliable, fixed income could make it easier to cushion potential income fluctuations from a performance-based withdrawal rate, and handle emergencies that require you to spend more than expected.

## **A withdrawal rate that decreases or increases with age**

Some strategies assume that expenses in the later years of retirement will be lower as a retiree becomes less active. They are designed to provide a higher income while a retiree is healthy and able to do more.

**Example(s):** Bill sets a six percent initial withdrawal rate for his portfolio. However, he anticipates reducing that percentage gradually over time, so that in 20 years, he'll take only about three percent each year from his portfolio.

**Caution:** Assuming lower future expenses could have disastrous consequences if those forecasts prove to be wrong--for example, if health care costs increase even more sharply than they have in the past, or if a financial emergency late in life requires unplanned expenditures. Even assuming no future financial emergencies and no unexpected increases in the inflation rate, this strategy would require discipline on a retiree's part to reduce spending later, which might be difficult for someone accustomed to a higher standard of living.

Other strategies take the opposite approach, and assumes that costs such as health care will be higher in the later retirement years. These set an initial withdrawal rate that is deliberately low to give the portfolio more flexibility later. The risk, of course, is that a retiree who dies early will leave a larger portion of his or her retirement savings unused.

## **Consider the impact of inflation**

An initial withdrawal rate of, say, four percent may seem relatively low, particularly if you have a large portfolio. However, if your initial withdrawal rate is too high, it can increase the chance that your portfolio will be exhausted too quickly. That's because you'll need to withdraw a greater amount of money each year from your portfolio just to keep up with inflation and preserve the same purchasing power over time. For a retirement portfolio, that can become problematic, since the amount withdrawn is no longer available to generate income in future years. An appropriate initial withdrawal rate takes into account that inflation will require higher withdrawals in later years.

**Example(s):** Jean has a \$1 million portfolio invested in a money market account that yields five percent. That gives her \$50,000 of income that year. However, inflation pushes up prices by three percent over the course of the year. That means Jean will need more income--\$51,500--the next year just to cover the same expenses ( $\$50,000 \times 0.03 = \$1,500$ ). Since the account provides only \$50,000 of income, the additional \$1,500 must be withdrawn from the principal. That principal reduction, in turn, reduces the portfolio's ability to produce income the following year. In a straight linear model,

principal reductions accelerate, ultimately resulting in a zero portfolio balance after 25 to 27 years, depending on the timing of the withdrawals. (This example is a hypothetical illustration and does not account for the impact of any taxes.)

Inflation is one reason you can't simply base your retirement income planning on the expenses you expect to have when you first retire. Costs for the same items will most likely continue to increase over your retirement years, and your initial withdrawal rate needs to take that into account to be sustainable.

There's another inflation-related factor that can affect your planning. Seniors can be affected somewhat differently from the average person by inflation. That's because costs for some services that may represent a disproportionate share of a senior's budget, such as health care and food, have risen more dramatically than the Consumer Price Index (CPI)--the basic inflation measure--for several years. As a result, seniors may experience higher inflation costs than younger people, and therefore might need to keep initial withdrawal rates relatively modest.

## **What determines whether a withdrawal rate is sustainable?**

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- Your time horizon: The longer you will need your portfolio to last, the lower the initial withdrawal rate should be. The converse is also true (e.g., you may have health problems that suggest you will not need to plan for a lengthy retirement, allowing you to manage a higher withdrawal rate).
- Anticipated and historical returns from the various asset classes in your retirement portfolio, as well as its anticipated average annual return: Though past performance is no guarantee of future results, the way in which you invest your retirement nest egg will play a large role in determining your portfolio's performance, both in terms of its volatility and its overall return. That, in turn, will affect how much you can take out of the portfolio each year without jeopardizing its longevity.
- Assumptions about market volatility: A financial downturn that reduces a portfolio's value, especially during the early years of withdrawal, could increase the need to use part of the principal for income. It could also require the sale of some assets, draining the portfolio of any future income those assets might have provided. Either of those factors could ultimately affect the sustainability of a portfolio's withdrawal rate.
- Anticipated inflation rates: Determining a sustainable withdrawal rate means making an assumption about changes in the cost of living, which will likely increase the amount you'll need the portfolio to provide each year to meet your expenses.
- The amounts you withdraw each year: When planning your retirement income, your anticipated expenses will obviously affect what you need to withdraw from your retirement portfolio, and therefore affect its sustainability. However, because this is one aspect over which you have at least some control, you may find that you must adjust your anticipated retirement spending in order to make your withdrawal rate sustainable over time.

- Any sources of relatively predictable income, such as Social Security, pension payments, or some types of annuity benefits: Having some stability from other resources may allow greater flexibility in planning withdrawals from your portfolio.
- Your individual comfort level with your plan's probability of success.

As with most components of retirement income planning, each of these factors affects the others. For example, projecting a longer lifespan will increase your need to reduce your withdrawals, boost your returns, or both, in order to make your withdrawal rate sustainable. And of course, if you set too high a withdrawal rate during the early retirement years, you may face greater uncertainty about whether you will outlive your savings.

**Example(s):** Mary's financial professional tells her that given her current withdrawal rate and asset allocation strategy, there is an 80 percent chance that her retirement savings will last until she's 95 years old. Mary has several choices. If she wants to increase her confidence level--maybe she prefers a 95 percent chance of success--she might reduce her yearly spending, try to increase her portfolio's return by changing her asset allocation, direct a portion of her portfolio into an investment that offers a guaranteed lifetime income, or some combination. On the other hand, if she's a risk taker and is comfortable with having only a 75 percent chance that her portfolio will last throughout her lifetime, she might decide to go ahead and spend a bit more now. (This is a hypothetical illustration only, not financial advice).

## **Income-only withdrawals vs. income and principal**

Many people plan to withdraw only the income from their portfolios, intending not to touch the principal unless absolutely necessary. This is certainly a valid strategy, and clearly enhances a portfolio's sustainability. However, for most people, it requires a substantial initial amount; if your portfolio can't produce enough income to meet necessary expenses, an income-only strategy could mean that you might needlessly deprive yourself of enjoying your retirement years as much as you could have done. A sustainable withdrawal rate can balance the need for both immediate and future income by relying heavily on the portfolio's earnings during the early years of retirement, and gradually increasing use of the principal over time in order to preserve the portfolio's earning power for as long as possible.

Planning to use both income and principal requires careful attention to all the factors mentioned above. Also, in establishing your strategy, you should consider whether you want to use up all of your retirement savings yourself or plan to leave money to heirs. If you want to ensure that you leave an estate, you will need to adjust your withdrawal rate accordingly.

Your decision about income versus income-plus-principal should balance the need for your portfolio to earn a return high enough to sustain withdrawals with the need for immediate income. That can provide a challenge when it comes to allocating your assets between income-oriented investments, and investments that have the potential for a higher return but involve greater volatility from year to year. You may need to think of your portfolio as different "buckets"--for example, one "bucket" for your short-term living

expenses, another bucket that could replenish your expenses bucket as needed, and another bucket invested for the long term.

## Estimating lifespan

In general, life expectancies have been increasing over the last century. Life probabilities at any age are listed on the Social Security Administration's Period Life Table, available under the Actuarial Publications section of its web site.

**Tip:** Regularly updated longevity estimates are published in the National Center for Health Statistics' National Vital Statistics Reports.

However, be aware that averages are not necessarily the best guide when determining how long an individual portfolio may need to last. By definition, many people will live beyond the average life expectancy for their age group, particularly those who have a family history of longevity. Also, average life expectancies don't remain static over an individual's lifetime; a 30-year-old may have an average life expectancy of 76, while a 76-year-old may have a life expectancy of 85.

Couples will need to consider both individuals' life expectancies when planning a sustainable withdrawal rate.

## Establishing a comfort level with uncertainty

As noted previously, setting a sustainable withdrawal rate requires many assumptions and forecasts about what will happen in the future. Changing any of the variables may increase or decrease the level of certainty about whether your portfolio will last as long as you need it to. Increasing certainty about the outcome may require reducing your withdrawal rate or revising your investment strategy. Conversely, increasing your withdrawal rate, especially in the early years of retirement, may also increase the odds that your portfolio will be depleted during your lifetime.

The challenge is to balance all factors so that you have an acceptable level of certainty about the portfolio's longevity consistent with providing the level of income needed over your expected lifetime and the risk you're willing to take to provide it.

One increasingly common method for estimating the probability of success is the Monte Carlo simulation. This technique uses a computer program that takes information about your portfolio and proposed withdrawal strategy, and tests them against many randomly generated hypothetical returns for your portfolio, including best-case, worst-case, and average scenarios for the financial markets. Based on those aggregated possibilities, the program calculates your portfolio's probability of success. Monte Carlo simulations also allow you to revise assumptions about lifespan, withdrawal rates, and asset allocation to see how changing your strategy might affect your portfolio's chances. Though the process offers no guarantees, it does take into account potential fluctuations in your

portfolio's year-to-year returns. The result is a more sophisticated analysis than simply establishing a withdrawal rate based on a constant rate of return on your investments over time.

Some retirement income strategies tackle the question of uncertainty by including not only income sources that pay variable amounts, but also sources that provide relatively fixed or stable income, or lifetime income that is guaranteed. Just remember that the purchasing power of any fixed payment amounts can be eroded over time by inflation.

Once you've established an initial withdrawal rate, you probably should revisit it from time to time to see whether your initial assumptions about rates of return, lifespan, inflation, and expenses are still accurate, and whether your strategy needs to be updated.

## **Conventional wisdom about 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, more research is being done on how best to calculate withdrawal rates.

A seminal study on withdrawal rates for tax-deferred retirement accounts (William P. Bengen, "Determining Withdrawal Rates Using Historical Data," *Journal of Financial Planning*, October 1994), 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 1937-1941, and the 1973-74 recession. It found that a withdrawal rate of slightly more than four percent 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 five percent--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 ("Decision Rules and Portfolio Management for Retirees: Is the 'Safe' Initial Withdrawal Rate Too Safe?," *Journal of Financial Planning*), 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 that 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 five percent.

A still more flexible approach to withdrawal rates builds on Guyton's methodology. William J. Klinger suggests that a withdrawal rate can be fine tuned from year to year using Guyton's methods, but basing the initial rate on one of three retirement profiles. For example, one person might withdraw uniform inflation-adjusted amounts throughout their retirement; another might choose to spend more money early in retirement and less

later; and still another might plan to increase withdrawals with age. This model requires estimating the odds that the portfolio will last throughout retirement. One retiree might be comfortable with a 95 percent chance that his or her strategy will permit the portfolio to last throughout retirement, while another might need assurance that the portfolio has a 99 percent chance of lifetime success. The study ("Using Decision Rules to Create Retirement Withdrawal Profiles," *Journal of Financial Planning*, August 2007) suggests that this more complex model might permit a higher initial withdrawal rate, but it also means the annual income provided is likely to vary more over the years.

Don't forget that all these studies are based on historical data about the performance of various types of investments, and past results don't guarantee future performance.

## **Market volatility and portfolio longevity**

When setting an initial withdrawal rate, it's important to take a portfolio's volatility into account. The need for a relatively predictable income stream in retirement isn't the only reason for this. According to several studies in the late 1990s by Philip L. Cooley, Carl M. Hubbard, and Daniel T. Walz, the more dramatic a portfolio's fluctuations, the greater the odds that the portfolio might not last as long as needed. If it becomes necessary during market downturns to sell some assets in order to continue to meet a fixed withdrawal rate, selling at an inopportune time could affect a portfolio's ability to generate future income. And a steep market downturn, or having to sell assets to meet unexpected expenses during the early years of retirement, could magnify the impact of either event on your portfolio's longevity because the number of years over which those investments could potentially have produced income would be greater.

## **Withdrawal rates and tax considerations**

When calculating a withdrawal rate, don't forget the tax impact of those withdrawals. For example, your withdrawal rates may need to cover any taxes owed on that money. Depending on your strategy for providing income, you could owe capital gains taxes or ordinary income taxes. Also, if you are selling investments to maintain a uniform withdrawal rate, the tax impact of those sales could affect your withdrawal strategy. Minimizing the tax consequences of securities sales or withdrawals from tax-advantaged retirement savings plans could also help your portfolio last longer.

## IMPORTANT DISCLOSURES

To comply with IRS regulations, we advise you that any discussion of Federal tax issues in this article was not intended or written to be used, and cannot be used by you, (i) to avoid any penalties imposed under the Internal Revenue Code or (ii) to promote, market or recommend to another party any transaction or matter addressed herein.

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