

Why I Hate Monte Carlo Analysis and Other Financial Projections

The problem with these types of plans, which reassure people that they will be OK "no matter what," is that they are used to comfort investors rather than actually advise them.



(Image credit: anneleven)

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I'm not a fan of financial plans that use straight-line projections or Monte Carlo risk analysis to support investment proposals. Here's why: They can lull people into a false sense of security or lead them to believe that the stock market is the answer for all of life's potential calamities.

[The Psychology of the Stock Market and Investment Decisions](#)

It is human nature to assume that a positive trend will continue, even in gambling when the odds reset at every interval. Before the 2008 stock market crash, the Dow was at a high of 14,164.43. By March 2009, it was at 6594.44, a drop of over 50%. If you were close to age 60 in early 2007, your financial plan projections would likely have encouraged you to stay close to 60% in stocks, the same advice many such investors are getting today. Your portfolio would have dropped by as much as 30% over just 18 months. That kind of hit would require a serious lifestyle change to catch back up and may even postpone your retirement.

My beef with projections goes beyond market fluctuations. Financial plans are too often used to encourage greater risk tolerances by projecting averaged returns over long periods with compounding to show an uninterrupted march toward wealth. An increase in risk tolerances may be proposed to overcome setbacks. Advisers often walk a fine line between encouraging that

clients maintain current spending levels to support their lifestyle, and that they make regular additions to the portfolio.

Investors are happiest when they feel successful now and are confident that their success will continue unabated. Sometimes that confidence is bolstered by projections, but could it be false confidence?

Comprehensive financial plans provide a range of probable and possible outcomes, relying on assumptions based on your future wage earnings, your asset allocation and investment performance, anticipated taxes and costs, and your future spending needs. In addition to relying on assumptions, these projections attempt to predict the future. However, once you project beyond about 10 years, probability mostly gives way to fantasy. There are just too many variables — human, technological, economic, natural and political — to extend an otherwise helpful projection even when hundreds of Monte Carlo simulations are run.

What a Monte Carlo analysis Looks Like

The name “Monte Carlo” is taken from the famous gambling city in Monaco. Chance and random outcomes are central to Monte Carlo modeling simulations. These simulations are used to estimate the probability that an asset price will move in a certain way. The function of the analysis is to frame numerous possible outcomes in a bell curve that illustrates the most likely returns under specified assumptions. The likelihood of experiencing any particular return is a product of standard deviations of probability, with no guarantee that the most expected outcome will even occur or that the most unexpected outcome won't.

First, such projections assume a perfectly efficient market — a controversial hypothesis that all factors affecting returns are always priced in. If markets are perfectly efficient, then active management to outperform low-cost index funds will fail over time. Therefore, investors should buy and passively hold a broad representation of the market to succeed. However, financial plans promote at least some active management in a belief that analysts can predict trends, identify undervalued stocks and outperform the market. Running hundreds or thousands of simulations enables planners to factor in the inefficient market and encourage some active management.

So, despite the range of bad outcomes depicted in such projections, investors are encouraged to ignore calamity and focus on the most probable outcomes. For many people, unanticipated financial loss, unemployment, health issues and accidents — which such projections cannot fully consider — will derail even the most modest assumptions. Here are a couple of the reasons why:

Tax Issues and the effect of accelerated health care costs

One impediment to successful financial planning is that the current income and estate tax laws are unreliable. Much of the Tax Cuts and Jobs Act of 2017 (TCJA) is set to expire, or “sunset,” on Jan. 1, 2026, along with some significant savings for taxpayers. We assume that some form of the current tax code will be extended, with yet another sunset on the horizon, but can we rely on that?

Consider also the effect that health care costs will have on your retirement. The Affordable Care Act (ACA) currently provides post-retirement insurance coverage for millions who retire before age 65, when Medicare is available, and are not covered through a working spouse's employer health plan. Anyone not covered by an employer plan needs to be able to purchase private insurance.

If you are eligible, Medicare alone provides insufficient coverage, as it excludes many services. Medical providers and hospitals are subject to restricted price limits that encourage them to deny services and procedures. It's likely you will need to buy private supplemental coverage to fill the coverage gaps inherent in the Medicare program. The ACA also requires that insurance providers offer affordable and comprehensive health care coverage without regard for any pre-existing conditions. But can you rely on the ACA provisions lasting until you need them?

If the present administration succeeds in repealing the ACA, finding suitable and affordable coverage, including Medicare supplemental plans, will be more difficult if you meet certain health profiles and impossible if you have certain pre-existing conditions. Insurers will also be allowed to offer only minimal coverage for retirees at affordable rates while pricing comprehensive plans much higher — and even out of reach of many with high-risk health factors.

Therefore, the probability of higher income tax rates and skyrocketing health care costs makes financial planning even more necessary, and more problematic. So, what should you do about it? You must formulate an actionable financial plan.

Crucial steps for financial fitness

Instead of just planning for — and fearing — the worst, you can put yourself in position to be successful, no matter what, by returning to the financial basics.

First: Plan to eliminate debt, especially credit cards and other revolving credit lines, without sacrificing annual contributions to your qualified retirement plan. There is pending legislation, The Secure Act, that may enhance your retirement savings opportunities. Most retirement plan contributions are tax deferred and may even include employer matching. When you fail to take employer matching, usually up to 5% of your gross wages, you are essentially agreeing to work more than two weeks that year without pay.

Second: You should reduce your lifestyle costs below your monthly net wages, including your retirement plan contributions.

Third: Plan on working until you have paid off your mortgage. If that payoff date is well past full retirement, you should strongly consider downsizing your home now while mortgage rates are relatively low.

Fourth: You should get the most from your Social Security retirement by planning to work longer; you likely must work to age 67 to get full retirement benefits. Even if you find later that

you can afford to retire early, planning and saving for a later retirement date increases your chances for a successful outcome.

Finally: Give strong consideration to your actual tolerance for declines in your investment portfolio. The likelihood of rapid market volatility has been evidenced by the past several business cycles. Assuming that your investments will bounce back without serious consequences becomes less and less logical as you near retirement. And when you factor in possible personal calamity with market volatility, a simple rainy day can become that perfect storm.

The final analysis

I may not be a fan of investment plans that rely on projections, but running them still has its benefits. The process of creating a balance sheet, examining current and future spending, discussing expectations for market returns, establishing a suitable asset allocation, understanding the effects of fees and taxes, and seeing conservative projections over a short period is illuminating.

Have your adviser run projections with scenarios such as:

- Your employment ends and you can't find a suitable replacement position.
- You must purchase expensive private health coverage.
- You must weather an economic depression.
- You or your spouse dies or becomes disabled.

If the results of these projections show that sometimes your plan will fail to meet expectations, you must consider what is an acceptable chance of failure and adjust your plan accordingly.

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