Why So Serious About Retirement Income?

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The financial services industry is full of people making predictions they believe are based on logic and rational analysis of data, when the reality is those predictions are based on illusory patterns that create an overly pessimistic outlook for retirement income.

Humans’ tendency to look for patterns dates to our most distant ancestors, for whom the ability to see patterns and causal connections was critical to survival. For example, recognizing that people who lingered in the tall grass tended to get eaten by lions was important for perpetuating the species. As such, this skill became hardwired in our brains.

Unfortunately, our desire to make sense of a world that does not always make sense causes people to see patterns that are not there, leading to superstitions, conspiracy theories, and failed economic forecasts. Furthermore, the more information you have, the more explanations are possible, which counterintuitively makes the most educated more prone to seeing illusory patterns, and in the age of big data and powerful computers, spurious correlations abound.

For example, there is an almost perfect correlation between people who drowned after falling out of a fishing boat and the marriage rate in Kentucky (Vigen 2022). This is obviously a spurious correlation, and accepting it without question may give you an unrealistically negative outlook on marriage. Similarly, accepting the spurious correlations I see around retirement income without question can cause you to have an excessively negative outlook about retirement income.

This article will discuss the seer–sucker theory of forecasting, focus on three illusory patterns that cause experts to paint an overly pessimistic narrative around retirement income, and present the genuine pattern advisors and retirees should focus on.

THE SEER–SUCKER THEORY OF FORECASTING

The seer–sucker theory (Armstrong 1980) says that despite the abysmal track record of would-be seers, there are always suckers willing to believe or even pay for their predictions. Experts have an awful record of prediction because they use their brains, which are susceptible to cognitive biases to predict nonlinear outcomes that fundamentally are unpredictable. People treat these flawed predictions as gospel because of an aversion to uncertainty and a need for control.

Political scientist Philip Tetlock has compiled the most comprehensive study of the accuracy of expert forecasters, tracking more than 27,000 economic or political predictions by 284 experts over more than 20 years, and concluded that the experts’ predictions were no more accurate than random guesses (Tetlock and Gardner 2015; Gardner 2011). His assertion that the experts would have been beaten by “a dart-throwing chimpanzee” was echoed by Nobel laureate Daniel Kahneman (2011). Of note, Tetlock found that the experts with the biggest media profiles had the worst results and were the most overconfident.

As a 2015 headline in Business Insider proclaimed, “Interest rate forecasters are shockingly wrong almost all of the time” (Oyedele 2015).

Despite the awful track record of expert forecasts, many people treat forecasts with reverence due to an aversion to uncertainty. In one study a group of subjects was told they would receive a series of 20 electric shocks, all of which would be of an intense nature, and a second group heard they would receive 17 mild shocks and only three intense ones but would not know the order of shocks. Researchers gauged the emotional response of participants by monitoring things such as skin conductance and heart rate, and they found that those scheduled to receive the unpredictable but mostly mild shocks had a stronger emotional reaction than the all-intense but predictable shock group (Arntz et al. 1992). Such uncertainty causes people to try to anticipate the future by seeing patterns that are not there.

ILLUSORY PATTERNS OF RETIREMENT INCOME

One illusory pattern of retirement income is the basis for unduly dire warnings from those who say the current low-interest-rate environment is the death knell for creating a sustainable retirement-income plan. The first reason
those warnings should be ignored is, as the discussion above notes, nobody has shown an ability to accurately forecast interest rates over short periods much less over the long retirements investors hope to enjoy. Even if they could, bond yields alone are not predictive of retirement–income success.

Figure 1 gives the 10–year Treasury rate for each year since 1900. For example, the first bar shows that the Treasury rate in 1900 was 3.2 percent. When I applied a systematic approach ($1–million investment, 50/50 risk allocation to stocks and bonds, 5–percent initial withdrawal, 3–percent increases, and 1.5–percent annual fee) to rolling 25–year periods since 1900, and the red bars show the portfolios that began in those years failed (portfolios had to finish the 25th year with at least 40 percent of investment remaining to be deemed successful).

Of the 15 portfolios beginning in the low–rate years 1940–1954, indicated in figure 1 by the bracket, nine finished the 25th year with more principal than they began with the first year. The worst performer finished with 43 percent of principal intact and the other five finished with more than 50 percent.

Conversely, several portfolios that began in higher–rate environments ran out of money. Bond yields are not predictive of retirement–income success.

A second illusion comes from people who predict that low overall returns will force retirees to take smaller withdrawals. Here again, I stress that nobody has shown a consistent ability to predict returns with any accuracy and even if they could, average annual returns are not predictive of retirement–income success.

Returns are not predictive because managing the distribution of wealth is a nonlinear process governed by the laws of chaos theory and averages mask nonlinearity (Sandidge 2019; 2020). You must dig deeper to see how returns are generated.

Figure 2 shows the average annual returns for my systematic portfolios (50/50 allocation) applied to the rolling 25–year periods, and the red bars again show that portfolios beginning those years failed. For example, the first bar shows that the average annual return from 1900–1924 was 6.6 percent. Those beginning 1900–1939 averaged 7.1 percent per year and most ran out of money, and the ones beginning 1940–2001 averaged 9.0 percent and had a much higher success rate. This appears to contradict my assertion that low returns are not predictive of retirement–income success, but how you generate returns is key.

When I created a scenario in which you average 7.1 percent by earning 7.1 percent each year with no negative years and applied the systematic approach, I finished with 40 percent of the original principal intact. But if I skipped cash–flow increases in years two and three, I finished with 60 percent, illustrating that a portfolio with a low return but no negative years can be successful. Thus, managing negative returns is the essence of successful retirement income.

Monte Carlo analysis is the third and ultimate illusory pattern that leads to inordinately pessimistic retirement–income forecasts. It is illusory because its inputs are not predictive, and it omits variables that significantly impact outcomes.

The bars and line in figure 3 reflect two investors who retired with $1 million, withdrew 5 percent the first year, and

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increased the dollar amount of the withdrawal by 3 percent per year. The bars allocated 100 percent to stocks, earned 6.1 percent per year, paid no fees, and ran out of money in the 17th year. The line allocated half to T-bills and half to long Treasury bonds, earned 4.8 percent per year, paid a 1.5–percent annual fee, and finished the 17th year with 42 percent of principal remaining.

Thus, the less-volatile portfolio with the lower return (4.8 percent versus 6.1 percent) and higher fees (1.5 percent annually versus no fee) generated a superior financial outcome, illustrating that the cornerstones of Monte Carlo analysis (returns and risk) are not accurate predictors of success for retirees.

When you net out the 1.5–percent annual fee, the bond portfolio effectively earned 3.3 percent per year versus 6.1 percent for the stock portfolio, yet generated a better outcome, further illustrating that annualized returns are not predictive of retirement-income success or failure.

As noted, how you generate a given return matters, and when you look at the yearly returns of the portfolios in figure 3 it becomes clear why the stock portfolio ran out of money. It lost 9.1 percent the first year and factoring in the withdrawal, the first bar is 14 percent below the $1 million investment. It then lost 11.1 percent, and 22.1 percent in the next two years and 37 percent in the ninth year, but the bond portfolio had positive returns in each of its first nine years. Those losses are why the stock portfolio generated an inferior outcome despite having a higher annualized return and lower fees. Avoiding negative returns is essential to retirement-income success.

Compounding these flawed inputs is the fact that Monte Carlo does not capture the significant impact of active management (Sandidge 2019; 2020). If I retired in 1966 with a 50/50 portfolio and employed the type of systematic approach typical of Monte Carlo, including a 5–percent initial withdrawal, I finished the 25th year of retirement with 9 percent of principal remaining. If I used a more-conservative 30/70 allocation the first year and skipped cash-flow increases in the four subsequent negative years, I finished with 66 percent of the principal. Active management accounts for the difference between finishing with 66 percent versus 9 percent, and because Monte Carlo analysis does not account for that active management it presents an overly pessimistic view of retirement income.

Thus, the inputs Monte Carlo uses (risk and return) are fatally flawed and the inputs it does not capture (active management) are significant. As a result, the outcomes generated by Monte Carlo analysis are illusory, and the greatest obstacle to discovery is not ignorance but the illusion of knowledge.

The tendency of some experts to assume that managing a distribution portfolio automatically means you will be dealing with an eroding asset illustrates the excessive negativity that springs from these illusory patterns. When I applied a 50/50 portfolio with a 1.5–percent annual fee and a 4–percent initial withdrawal that was increased 3 percent annually to every rolling 25–year period beginning since 1940, 52 of the 58 portfolios (90 percent) finished with more principal than they began with and the other six all finished with at least 65 percent of the principal. That assumes a systematic annual increase, but most retirees consume less during retirement and can maintain their standard of living without such increases, and actively managing cash flow should increase the success rate.

**GENUINE PATTERNS OF RETIREMENT INCOME**

The genuine pattern retirees should worry about is the correlation between negative returns and retirement-income success. The frequency and magnitude of negative returns are key. Managing the detrimental effects of losses is the essence of retirement income and a more positive story than scaring people with hyperbolic assertions based on illusory patterns.

Figure 4 shows the number of negative years per rolling 25 years since 1900. For example, the first bar shows there were six negative years between 1900–1924. Of the 41 portfolios that had four or fewer negative years, 37 (90 percent) were successful and only four failed. Conversely, of the 61 portfolios that had more than four years of losses, 43 (70 percent) failed and 18 were successful. Thus, historically, the number of negative years has been indicative of retirement-income success, especially when you have four or fewer years with losses.
In addition, the magnitude of losses has a substantial impact on retirement-income success. The portfolios beginning 1800–1939 had higher average positive returns (12.4 percent versus 11.9 percent) but significantly worse average negative returns (~8.7 percent versus ~4.6 percent) and averaged more negative years (6.2 versus 4.5) than the later portfolios. Finally, a 50/50 portfolio had eight years of losses equal to or greater than 5 percent in the 42 years between 1900 and 1941 (19 percent) but only four such losses in the next 80 years (5 percent). The larger number of and greater magnitude of negative years explains the poorer performance of the earlier portfolios, and the plethora of bank panics before the banking reforms ushered in during the 1930s may explain the greater number of negative years before the 1940s.

Once you recognize the impact of negative returns you can articulate strategies to manage those impacts. You can take preemptive action by skipping cash-flow increases or employing more-conservative allocations in the early years, or by adapting cash flow in response to negative returns.

In figure 5, the first bar assumes you lost 25 percent the first year, earned 10 percent every year after that, applied the systematic approach, and shows that you finished the 25th year with 12 percent of the original principal intact. The second bar followed the same approach but assumes you lost 2 percent in each of years 1, 4, 7, 10, and 13 and shows you finished with 5 percent of the principal. Losing 25 percent in year 1, such as the first bar, presents a greater risk of investor panic, but the second bar shows that having five small losses is more pernicious financially because the need for adjustments is not as obvious.

Those five losses of 2 percent each lead to a worse financial outcome than a 25-percent loss in the first year, which illustrates how negative momentum builds in a portfolio, eventually leading to accelerated principal erosion. This is where preemptive strategies are particularly important.

The remaining five bars all assume the same five small losses as the second bar. The third bar shows that if you skipped cash-flow increases in the four negative return years 4, 7, 10, and 13, you increased your ending value from $51,717 to $355,847. The fourth bar also skipped four increases but did so in years two through five, and these earlier adjustments increased the ending value to $464,448.

The fifth bar combined the preemptive approach with the reaction to negative years by skipping increases in years two and three along with the four negative years, pushing the ending value to $562,315. Until this point, I have only skipped increases and never reduced cash flow. In the sixth bar, however, I did lower cash flow by 3 percent in each of the four negative years and increased the ending value to $638,550. Finally, the seventh and final bar skipped all increases, paying $50,000 each year and finishing with 111 percent of the original principal.

Regardless of the strategy chosen, articulating your strategy to manage losses is a more positive story than telling people they should be very afraid to retire because of low yields or returns. Also, older adults prefer, remember, and are more motivated by positive information than negative.

In one study, older adults rated positive healthcare pamphlets as more informative than negative ones and remembered a greater proportion of positive than negative messages (Shamaskin et al. 2010).
Older adults who were told about the benefits of walking were more likely to walk than those who were told about the negative consequences of not walking, whereas younger adults were unaffected by framing (Nottoff and Carstensen 2014). Older adults recalled fewer negative images compared to younger adults (Charles et al. 2003). Neuroscientists found younger adults had heightened activity in the amygdala in response to positive or negative information relative to neutral, but older adults showed more activity only in response to positive information (Mather et al. 2004).

Nobody has shown an ability to accurately predict financial markets with any consistency, yet many people treat those predictions like statements of fact rather than the flawed predictions they are. Even if experts could predict interest rates or market returns, neither is predictive of retirement-income success. Monte Carlo analysis is the ultimate illusion because the inputs it uses are badly flawed and it does not capture the impact of active management. Negative returns have a genuine correlation to retirement-income success. Advisors should create a more positive narrative by articulating a plan for managing market losses, including adjustments to cash flow before the need is obvious. 

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