

The Fallacies in Today's Retirement Plan Assumptions Putting the Hedonic Pleasure Index to Work

By Bob Veres
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Are you dramatically underestimating your clients' retirement lifestyle expenditures when you use Monte Carlo software? If you stop and look at a number of important assumptions hidden in the current models, you'll suddenly have a lot less confidence in the retirement plans you're mapping out for your clients.



Bob Veres

Last August, in this space, I took issue with ten "garbage in" inputs that I've seen advisors use to analyze client decisions. (You can see the full article [here](#).) The list included future tax obligations, future tax rates, the after-tax allocations in a client portfolio, two different aspects of the so-called "efficient frontier," assumptions about how long clients will live, what clients will pay in future medical expenses, any estimates about the downside volatility of the investment markets, any general estimates about future U.S. equity returns, and – particularly problematic – assumptions about client spending in retirement.

After that article ran, I received a detailed response from Jim Shambo, of Lifetime Planning Concepts in Colorado Springs, CO. Shambo may have thought more deeply about post-retirement spending patterns than anybody in the profession. In a nutshell, he said that the research I cited (Bureau of Labor Statistics CEX surveys) is not really telling us that people spend less in retirement than they did before. The CEX data doesn't follow the same individuals before and after retirement, and it doesn't control for the fact that different age cohorts reported different income levels. Garbage in, garbage out!

Shambo had previously published his own analysis in the November 2008 issue of the *Journal of Financial Planning*, where he coined the phrase "The Hedonic Pleasure Index" to define real-world spending patterns. His investigation began with a critical look at the Consumer Price Index – which, of course, is a significant input into traditional retirement sufficiency models that advisors sometimes overlook. Safe spending rates are normally defined as a percentage of the portfolio on the client's first day of retirement (often 4% to 5% of the total), and then increasing that dollar amount by the CPI in each subsequent year of retirement, so client expenditures would keep pace with the cost of living.

Inflation is higher than you think

But, Shambo asked, does the CPI accurately reflect increases in the costs of a client's lifestyle in retirement? He cited his own pre-retirement spending inflation as an example. "In 1973, I made and spent \$9,000," he said. "Using a 3% annual inflation estimate, I



should expect to spend \$28,500 today. Does anyone think that makes sense?" Relying on the price index means completely ignoring changes in income levels, net worth and spending behavior.

The CPI may also be dramatically understating real-world cost increases for goods and services, for several reasons:

1. The Bureau of Labor Statistics has been tinkering with the CPI since 1983, and overall Shambo has concluded that most of us have experienced a full percentage point more inflation than the revised CPI statistics have indicated. Among other things, the BLS tried to take out of the CPI the "investment return" that people get back from owning a home. So the housing expenditure cost increases were reduced to the extent that the BLS assumed you were getting them back in the form of increases in the value of your home. Since 2008, this has been far more of a theoretical than an actual offset for many homeowners. Indeed, the BLS never allowed for the possibility that houses might decline in value. But even if the value of your retired clients' homes have gone up instead of down these last five years, they still have to write checks for the full cost of their home repairs, taxes, etc. each year, not the hypothetical (lower) CPI estimate.
2. In its CPI calculations, the BLS now accounts for the fact that people are able to substitute one product for another when faced with rapid price increases. In his Hedonic Pleasure Index article, Shambo cites the example of a family accustomed to eating a filet mignon steak once a week for dinner. But when the price of such premium beef rises by 5%, the family might decide to eat T-bone steak instead – a lower expenditure that therefore (by BLS logic) results in a much smaller increase in living costs. But will all your clients make the BLS-assumed substitutions? For those who don't, actual costs will rise faster than the reported CPI.
3. The BLS also measures changes in the quality of consumer items from year to year and tempers adjustments to the CPI accordingly. So, for example, when car manufacturers added air bags, pollution controls and anti-lock brakes to the next year's model and raised the price by \$1,000, the BLS only included \$250 of the increase in its CPI price index. In the real world, however, you can't go to the dealership and ask for those items to be ripped out of your new car in return for a discount. Those costs, and many others throughout the consumer sector, still have to be paid, even if you're getting more for your money.

When Shambo looked at various analyses, including some conducted by the BLS itself, he found that, on average, the CPI understates actual out-of-pocket cost increases by about one percentage point per year. A 2% inflation rate, in other words, would actually translate to a 3% increase in out-of-pocket costs for the average consumer. Shambo's actual client experience suggests that the CPI understates spending inflation from .25 percentage



points to 1.50 percentage points, depending on the individual's behavior in the early years of retirement.

Another two faulty assumptions

But that's only part the story. There are two other assumptions built into the spending models that advisors are using. First, most spending models assume that clients will maintain a constant lifestyle in retirement. But do the various surveys and statistics bear this out? And, even if they do, isn't it likely that at least some of your clients will deviate from this one-lifestyle-forever assumption?

Second, models tend to assume that retirees' purchasing patterns are the same as those used to calculate the CPI. But is that true? Is it possible that the things retirees tend to buy more of exhibit more or less inflation than the expenditures of younger consumers? If the cost of health care goes up much faster than the inflation rate, for example, and retirees are spending a larger percentage of their income on medical care, then their overall spending might go up faster than any of the models are predicting.

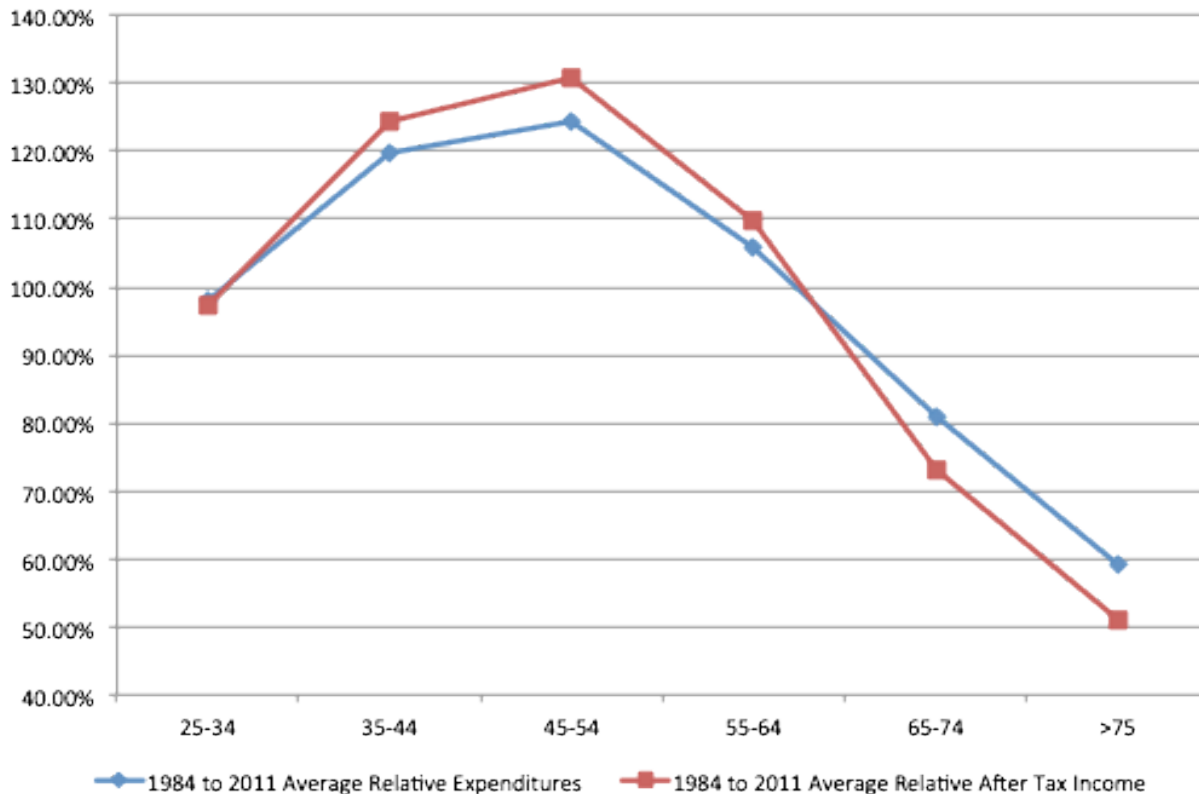
Both of these assumptions turn out to be problematic. When he looked at the BLS spending statistics, Shambo found that people between the ages of 65 and 74 tended, on average, to increase their annual spending levels between 1.11 percentage points and 1.78 percentage points more per year than the inflation rate. That means that over the course of that particular decade of their lives, they were spending between 11.28% and 18.69% more than a simple CPI-based assumption would predict. People age 75 and older were spending between 13.20% and 22.07% more than the inflation statistics suggest.

Some of that increase is undoubtedly due to the chronic CPI underestimation of real cost growth, but some may also owe to the fact that retirees were simply spending more – rather than less – in their retirement years. Shambo speculates that when older people make spending decisions they don't use what they spent last year as a guideline. Instead, they are influenced by how wealthy they feel; they tend to adjust their consumption according to the rise and fall of the value of their assets and the income generated by those assets.

Indeed, when Shambo looked at more recent data, he found that people across all age groups tended to reduce their spending in the wake of the 2008 global financial crisis. The CPI in 2009 was 2.72%, but people age 75 and older, on average, spent .05% less than they did the year before. In the face of a 1.50% CPI increase in 2010, they reduced their spending, again on average, by .46%. That same year, the average spending of people age 65-75 declined a remarkable 3.55%. It appears that many retirees instinctively spend less when their wealth decreases.

In an effort to measure this effect, Shambo created a graph, reproduced below, that extracts a lot of data from the BLS surveys and puts it into a very simple form. Each dot on the red and blue lines corresponds to a different age cohort, from ages 25-34 to those over age 75. The red line represents each age group's *average income* as a percentage of the total average income of all cohorts from calendar 1984 through 2011. The blue line represents each age group's *average expenditures*, again as a percentage of the total average.

Correlation of Income and Expenditures As a Percent of All Consumer Units



The figure shows a very high correlation between people's income and their spending levels; when people make more, they spend more. When they make less, they spend less. The graph looks especially interesting toward the righthand side, where you can see that retirees tend to spend and make less than their working peers, and, more than any other group, they spend more than their income – shown by the blue line crossing over the red income line.

How to adjust the planning process



What does all this mean for advisors? At the most basic level, the CPI numbers, as currently constructed, understate the yearly increases in actual out-of-pocket costs for most retirement lifestyles. This understatement factor goes up as clients move deeper into retirement or as clients experience more bullish financial circumstances. Even small understatements add up to significant differences when measured over a decade, throwing traditional models wildly off course.

In your Monte Carlo models, therefore, you should assume higher “real” yearly cost increases for your clients than whatever you’re assuming the inflation rate will be.

To make matters a bit more complicated, clients will tend to adjust their spending levels up or down as their income or net worth fluctuates. This is a strong self-correcting mechanism when the markets are visibly unfavorable, but it will also lead to overconfident spending in the boom years that so often precede a crash.

Instead of a single cost-of-living assumption that goes on throughout retirement, then, forward-thinking advisors will need to link spending with market activity. There are a number of proposals for how to do so, but no commercially available Monte Carlo model offers that capability.

But, in the end, Shambo points to what may be the most important missing piece of the analysis: the fact that your clients are not going to behave, at all times, like the statistical averages calculated by the Bureau of Labor Statistics. "As a real-world practitioner," he says, "I instinctively reject any rule of thumb when planning for an individual." Some clients will substitute the T-bone for the filet mignon, and some will not. Some will have a tendency to overspend, while others may be reluctant to take that vacation trip that they can now well afford.

Shambo offers three hypothetical client profiles, derived generally from real-world retirees.

1. Joe Ivagotta spends everything he makes. His mortgage will be paid off six years after his planned retirement begins at age 55, and he has a \$500,000 mortgage on a condominium in Vail, CO, that is now worth \$700,000. Joe could get close to a 5.5% initial withdrawal rate if he waits to retire until his home is paid off, and if he sells the condo to reduce his debt load. But neither of those things is going to happen. "Joe would rather keep things as-is and only sell the condo if things start to look bad," says Shambo. "He reasons that real estate prices in Vail always go up. Joe looks at every issue with 'if I've got to, I will' approach."
2. Ira Intuit will have his home paid off by retirement but won't be able to fully assume all the employee benefits previously paid by his employer, so he leaves some risks exposed. Ira also is an early adopter of all things technological and admits that he always buys immediately when new gadgets are launched. He can't help it. He



expects his initial withdrawal rate will be 4.5%, but he knows his spending pattern suggests that he will spend more than the reported inflation rate each year.

3. Wilbur Fine paid off his home ten years ago and is spending less now than he planned for in retirement. He has added a \$10,000 annual vacation item to his retirement budget, since retirement will be the first time he will have time to really travel. He also has all risks covered with short- and long-term disability insurance for before he retires and long-term care and life insurance for after he retires. He expects his initial withdrawal rate to be 5.0%, including the premiums on his risk protection. He always says to his wife "We'll be fine".

Do these people conform to any spending rules of thumb? Shambo expects Joe to change his spending habits only when he sees things turn seriously wrong. Ira's future spending is highly dependent on his impulses around technology. Wilbur is dragging down the BLS spending statistics. With his financial planning hat on, Shambo would recommend that both Joe and Ira take a lower initial withdrawal rate than the industry safe harbor studies dictate, because they both exhibit a proclivity to spend at a rate that exceeds the CPI. He might recommend that Wilbur raise his initial withdrawal rate, because his spending includes premiums for risk reduction insurance strategies. He may be a good candidate to buy single-premium immediate annuities to support his and his wife's cash flow needs.

Is our approach to planning too naïve?

So where do these behavioral issues fit into the standard Monte Carlo retirement sufficiency analysis? In modeling the future spending behavior of real people, Shambo will take into account their current spending habits and apply a personalized CPI that will range from .25% to 1% higher than whatever assumption he has for the actual CPI. He also assumes that, as clients age, their expenditure patterns will change. As the so-called "go-go" early stage of retirement gives way to the "slow-go" mid-stage, he might assume that clients will spend 10-15% less than before, and the late-stage "no-go" years may involve a further reduction.

But perhaps the clearest point of Shambo's exercise is that the profession's spending assumption models have far more complexity and moving parts than most of us realize. That, in turn, means that the current advice on saving rates may also be wrong. Many of the meticulous retirement plans that advisors have created for their clients are systematically underestimating the actual dollars those clients will spend when they reach their golden years. As a result, they are also underestimating how much their clients should save for a comfortable retirement.

Some of us remember the ancient days before Monte Carlo models were widely available, when advisors would give clients a retirement sufficiency spreadsheet that assumed their portfolio would go up exactly 8% every year. It took a full decade for the profession to



recognize the severe limitations of that naïve model and how much potential harm they were doing to clients by ignoring sequence risk and the impact of volatility.

We are on the verge of recognizing that the profession's retirement expenditure assumptions are just as naïve. Many advisors use strategic asset allocation models to address market volatility, dialing up or down their equity exposure based on current valuations and market conditions, while advising clients yearly on the new realities of their retirement. In the future, advisors will do much the same thing with clients' spending levels, taking a tactical approach to the analysis and advising clients to make their own tactical adjustments as circumstances on the ground change.

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