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Retirement Strategies

Portfolio Withdrawal Rates: The Magic Number



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America's first "baby boomer" filed for Social Security benefits Monday, becoming among the first of nearly 80 million Americans born after World War II who are expected to apply for such benefits over the next two decades. Kathleen Casey-Kirschling, 61, was born one second after midnight on Jan. 1, 1946. She becomes eligible for Social Security in two and a half months.

With fewer and fewer employers offering defined-benefit plans, retirees living longer more active lives, and, as signaled by the news item above, with the largest population group in our nations history now approaching retirement, it does not come as a great surprise that the question we hear more and more frequently is what is the maximum (safe) annual withdrawal rate for someone's retirement portfolio.

In fact, many of the same clients who originally came to us asking, "How much do you think I can earn on my portfolio each year?" are now asking, "How much do you think I can take from my portfolio each year?" For the same reasons stated before, this topic has become an area of intense interest and study for financial practitioners as well as retirees.

If you are tempted to jump to the end of this article to find *THE* correct withdrawal rate, I should point out that, unfortunately, no such number exists. The fact that there is no specific figure is not for lack of trying. There has been a great deal of academic research done to determine this number using stochastic present values, gamma distributions, and Monte Carlo simulations. Got all that? Well, in short, these are all just very sophisticated sounding ways of guessing. All of the variables that go into their various equations are guesses, so by definition, the results are also guesses.

In the absence of the ability to predict the future, selecting an appropriate withdrawal rate is a function of the estimates you must make on rates of return, mortality, inflation, and spending patterns. That all said, I will admit that much of the research done on this topic concludes that a range of 3% to 5% is reasonable. At KIM, although we believe this range is appropriate for many of our clients, it's simply not a good fit for everyone.

To be clear, I would like to define a "withdrawal rate" as it is commonly used when discussing portfolio distribution strategies. Despite what it may sound like, the withdrawal rate is not the percentage of your portfolio that you would withdraw each year, but rather the percentage of your portfolio that you would take out in the first year. After that, the dollar amount of your annual withdrawal is typically increased by the rate of inflation.

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For example, a 5% withdrawal rate means that someone with a \$1,000,000 portfolio will take \$50,000 in year 1. Assuming inflation of 2.5% throughout the year, the calculation for year 2 would be: $\$50,000 \times (1.025) = \$51,250$, which could be more or less than 5% of your portfolio value depending on how it has performed over that year.

Rather than diving too deeply into the mathematics behind this type of research, I will highlight some of the more important variables to consider in determining a reasonable amount to withdraw from retirement assets. That said, I thought a brief summary of Monte Carlo analysis would be helpful given its popularity.

Basically, in a Monte Carlo simulation, thousands of scenarios are run using random values for multiple variables (i.e. mortality, rate of return, inflation, etc.) based upon the probability distributions for each variable. The results of all the scenarios represent a range of possible outcomes. For example, if we run 1000 different scenarios on a particular withdrawal rate and 950 of the scenarios indicate the investor will not deplete their assets, we can say our confidence level that that particular withdrawal rate is “safe” is 95%. As you can see, this type of analysis is insightful, but not a guarantee.

Given the inherent uncertainty in selecting the “right” withdrawal rate for your portfolio, it is important to understand the key variables that affect the outcome - *mortality, inflation, risk/return, spending patterns, and distribution of returns* - and specifically, which of these can be controlled and which cannot.

Mortality

Aside from following your doctor’s orders, there is not a lot that can be done to control this variable. The simple reality is that the longer you live, the more probable it is that you will deplete your nest egg. Below is data relating to the life expectancy of men and women at age 65. Although the Society of Actuaries and the Department of Social Security actually break this up into sub-categories (white collar, blue collar, smoker, non- smoker, etc), the chart below is a good summary of the overall data.

Conditional Probability of Survival at Age 65		
To Age	Female	Male
70	93.9%	92.2%
75	85.0%	81.3%
80	72.3%	65.9%
85	55.8%	45.5%
90	34.8%	23.7%
95	15.6%	7.7%
100	5.0%	1.4%

Source: Society of Actuaries RP-2000 Table

However, be cautious of financial planners and journalists who assume these percentages are absolutes.

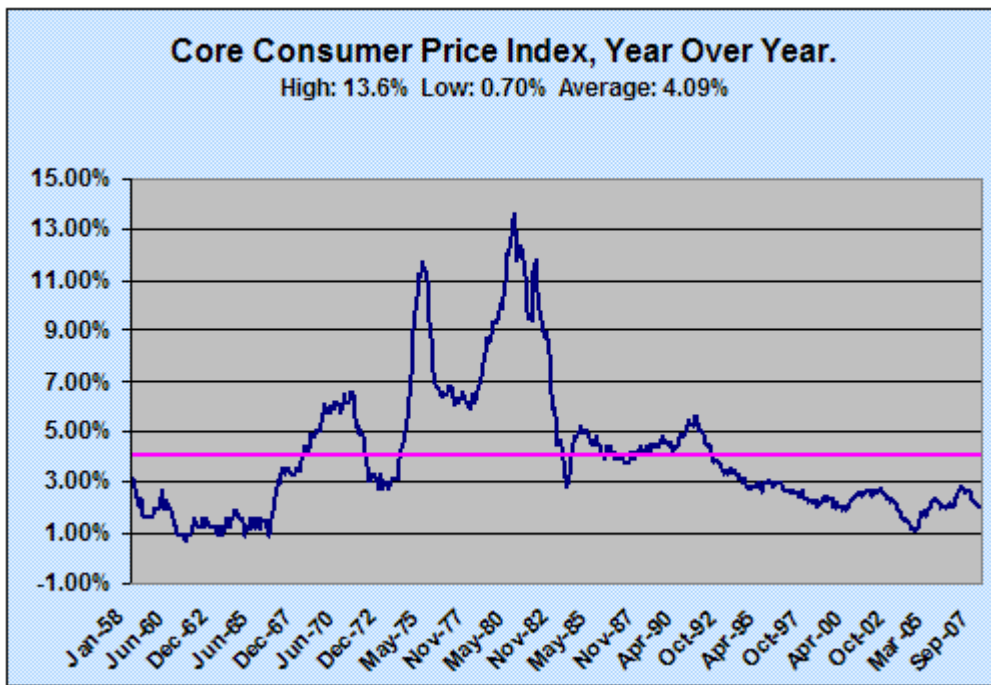
They are probabilities based on history and the expectations of actuaries. That said, even if this data proves remarkably accurate, you still may live longer than these figures suggest. Again, this is information that is helpful and should be considered in a financial plan. However, it must be taken with a grain of salt.

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Inflation

Unless you find yourself taking over the responsibilities of Ben Bernanke as the Chairman of the Federal Reserve, there isn't a great deal you can do to control inflation. Moreover, how do you measure inflation? Many political and economic pundits argue that CPI (Consumer Price Index) is a poor measure of "real inflation". They claim the reason for continued use of this yardstick is because it systematically understates real inflation and thus saves the government money as social security payments are linked to increases to the CPI.

While that may or may not be true, I do know many retirees on a fixed budget who see a big disconnect between the official data and their monthly bills. Whatever gauge you use to estimate future prices, we believe it is wise to select a withdrawal rate that allows for a portion of your investments to be dedicated to assets that may fight the negative effects of inflation. The chart below shows the yearly CPI from 1958 to present. As you can see, the historical average has been slightly above 4%. Many believe it is reasonable to expect lower rates of inflation going forward because of their confidence in our central bank and the emergence of a more competitive global marketplace. Although we believe this is a reasonable argument, it's far from a guarantee. As with most factors, we continually reassess this data and act accordingly as it relates to our clients' portfolios, withdrawal rates, and retirement plans.



Risk/Return

No discussion of withdrawal rates could be complete without analyzing investment performance. As I mentioned earlier, we are often asked about our expectations for yearly returns. Unfortunately, far less frequently we are asked about the risk (volatility) associated with those returns, which can be even more

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important. In fact, once an investor reaches the stage at which they start to take money from a portfolio, high volatility can hurt the sustainability of withdrawals more than high returns can help. As Dr. Moshe Milovsky wrote, “It is often stated that spending money in retirement is akin to creating your own pseudo bear market since each year the withdrawal process reduces the portfolio growth by the spending rate.” Add in a “real” bear market to a high risk portfolio and the combination can be devastating. The good news is that the level of portfolio risk can be managed. In fact, at KIM, much of our efforts are directed at targeting risk. Most of our portfolios have actual target volatilities relative to a benchmark (often the S&P 500). Although we may increase or decrease the amount of risk we incur in an effort to achieve higher returns based upon our market outlook, we still try to remain within a relatively tight range.

Spending Patterns

Spending patterns simply refers to how much you spend as time progresses. While this may seem like it’s a variable that is both easy to predict and easy to control, that is not always the case. Aside from unexpected health care or family emergency costs, we find that rarely is a recent retiree accurate in predicting how much they will spend. In fact, when discussing strategy with a client who is entering retirement, I mentally use their spending expectations as a starting point, not an absolute. I’m sure many reading this will say to themselves, “I’m different, I’ve got it all figured out.” Well, that may be true, but most people we work with discover they are wrong. We generally find that over the first year or so people are spot on with their predictions. However, once they get a little deeper into retirement we start to get calls for unplanned withdrawals for extra travel, a new hobby, etc. For this reason, we find it very important to have regular communication with our clients to stay on top of any changes in their financial situation that may affect the way we are managing their portfolio.

Distribution of Returns

Our final variable is the sequence, or order, of the yearly returns. This is best explained by example. The chart below shows two portfolios with identical average annual returns, standard deviations, and compound growth rates. However, the order in which the overall returns were constructed is different. In fact, in this example, the data stream is simply inverted. What’s most interesting, and concerning, is the difference in the withdrawal sustainability. Portfolio A, with three negative years after the withdrawals began, depleted its assets after the first 12 years. At the same time, Portfolio B is distributing assets at year 21 and appears to be growing beyond the scope of the chart.

This definitely falls into the category of a variable that you cannot control. Fortunately, there are strategies that can mitigate the negative effects of poor market performance at the beginning of retirement. One simple example is to have enough money in cash equivalents in advance to pay expenses. Other more complex strategies would be to employ decision rules based upon yearly real returns (returns after inflation). Some experts even argue that annuitizing a portion of your portfolio can decrease the odds of out-living your nest egg. Again, these are strategies we continually discuss with our clients in an effort to make their retirement nest egg last throughout retirement.

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Year	Portfolio A		Portfolio B	
	Return	Balance*	Return	Balance*
0		\$100,00		\$100,00
1	-18.39%	\$75,897	26.57%	\$117,710
2	-19.14%	\$55,710	19.61%	\$132,420
3	-4.59%	\$46,475	5.26%	\$132,017
4	18.47%	\$46,766	16.57%	\$145,733
5	6.79%	\$42,466	33.60%	\$185,347
6	14.30%	\$40,537	21.23%	\$216,210
7	-15.39%	\$28,376	13.92%	\$238,332
8	14.59%	\$24,495	-1.61%	\$227,608
9	8.95%	\$19,060	21.03%	\$267,002
10	19.52%	\$14,414	16.21%	\$302,148
11	20.72%	\$8,951	20.72%	\$356,303
12	16.21%	\$2,267	19.52%	\$417,486
13	21.03%	\$0	8.95%	\$447,225
14	-1.61%	\$0	14.59%	\$504,454
15	13.92%	\$0	-15.39%	\$420,896
16	21.23%	\$0	14.30%	\$473,083
17	33.60%	\$0	6.79%	\$497,730
18	16.57%	\$0	18.47%	\$581,367
19	5.26%	\$0	-4.59%	\$548,004
20	19.61%	\$0	-19.14%	\$437,456
21	26.57%	\$0	-18.39%	\$351,295
Arithmetic Mean:	10.4%		10.4%	
Standard Deviation:	14.6%		14.6%	
Compound Growth Rate:	9.4%		9.4%	

*Starting balance = \$100,000; Withdrawals = \$7,000/year
 Source: Fidelity Research Institute and QWeMA Group Inc., August 2007.

Conclusion

If you add it all up, it becomes obvious why there is no “one-size-fits-all” magic withdrawal number. The good news is that there are variables you can control. The bad news is that there are variables you can’t control. When we counsel clients on this topic, we try to uncover any factors that may influence what we believe to be a reasonable withdrawal strategy. For example, some retirees have a stronger desire to leave an estate than others. We often find that our clients with children who earn significant incomes are more comfortable with the prospect spending all of their savings compared to clients who have children with less earning power. Some other common discussions we have focus on long-term-care insurance, annuities, taxed vs. tax-deferred accounts, how many months of expenses should be in money market accounts, etc. Although we find many similarities with the people we help, we also recognize there are unique circumstances that have to be taken into consideration when developing a plan for retirement. ■

-- John Cogswell