



Sustainable Withdrawal Rates:

How much can you safely withdraw from your retirement accounts?

An important question for any retiree is deciding how much money they can withdraw from their retirement accounts each year and still be reasonably confident that their money will outlast their lifetime (and that of their spouse). In wealth management parlance, we call this the “Sustainable Withdrawal Rate” or SWR. The SWR is the initial percentage at which a retiree can withdraw funds and then make annual inflation adjustments to this initial withdrawal amount to compensate for inflation.

While the question itself is straightforward, the answer can be challenging because the solution is dependent on the answers to two important questions each of which is shrouded in uncertainty. The first question is; how long are you going to live? The second is; what returns will the stock market deliver over the next 30-40 years? It also turns out that knowing the “order” of these returns is important (and obviously shrouded in uncertainty as well).

From these shadows of uncertainty retirees strive to find clarity around the critical question of how much they can spend each year without risking running out of money. The unfortunate truth is that no one’s crystal ball is clear enough to answer this with certainty ; we can, however, provide a great deal of clarity.

We have found it helpful to broaden the scope of this question beyond simply finding “the answer”. The true goal is to help clients continuously make good decisions as life happens. Perhaps you’ll receive an unexpected inheritance, an interesting consulting

opportunity arises, or an unexpected health issue comes up. When dealing with uncertain areas like life and the stock market, the one area of certainty that we can count on is that

“The true goal is not simply to find ‘the answer’. The goal is to continuously make good decisions as life happens.... It is through a series of good decisions that one can make a real difference.”

things will change. The objective is to have a framework which puts you in a position to make good decisions when the inevitable changes

occur. It is through a series of good decisions that one can make a real difference.

Of the dozens of studies done on this subject four of them are particularly insightful and relevant, those by Bengen, Kitces, Guyton and the DALBAR Group. The first, by Bill Bengen, was published in 1994ⁱ. Prior to Bengen, many advisers simply used long-term stock market and bond market returns in their quest to help clients with this question.

Famously, Peter Lynch used the “average return” approach in a 1995 article for *Worth Magazine* in which Lynch stated that he thought a 7% distribution rate ought to be sustainableⁱⁱ. Using Bengen’s study, a newspaper reporter

demonstrated that Lynch had been overly optimisticⁱⁱⁱ. It turns out that using a 7% distribution rate puts one at a non-trivial risk of running out of money. Lynch graciously retracted his recommendation after he was shown the results.

Peter Lynch is a brilliant investor. So what was Bengen's insight that had escaped Lynch? Bengen used actual historic data from 1926 to 1993 for his market returns rather than averages. Bengen then merely evaluated various distribution rates to determine their likelihood of success. His process was far from perfect (market returns do not follow normal distributions; there are fewer than 40 thirty-year data sets in his study, etc.). However, the idea of using actual returns was indeed a breakthrough and makes intuitive sense.

Bengen's study found that a SWR of 4.4% was sustainable for over 95% of the 30-year time frames he studied where the portfolio's asset allocation was 50/50 to 70/30 stocks and bonds.

The second useful study is by Michael Kitces^{iv}. While Bengen's study is appealing for its rigorous quantitative analysis, Kitces study appeals to the knowledge, experience and wisdom we have acquired over the past two decades. Kitces steps back and asks a simple yet powerful question. *Doesn't the answer (SWR) depend on how expensive the market is when withdrawals begin?* It certainly does and Kitces sets out to explore ways to quantify the impact of market valuation. In doing so, he builds on the work of not just Bengen but also Robert Shiller, a well known U.S. Economist and a Yale University Professor. Shiller developed

the notion of measuring stock valuations using a company's average earnings over the past 10-years (rather than the industry standard trailing 12 months). Shiller calls this modified P/E ratio "CAPE" for Cyclically Adusted P/E.

Having poor market returns early in retirement is much more devastating to a plan's long term success than if poor returns come late in retirement. Experiencing losses similar to 2008 in the first five years of retirement has a dramatic impact on your planning. Experiencing such losses in the last five years of retirement is painful but tends to have a much smaller impact your retirement cash flows (because you likely have less money at the end of your retirement than at the beginning).

Kitces hypothesizes that periods of low stock market valuations can support higher SWRs because the market is less likely to experience a significant correction when valuations are already low. He uses CAPE ratios as a way to smooth out the valuation data.

Kitces segments Bengen's data by each 30 year periods' starting CAPE ratio. He discovers that scenarios with a low starting CAPE ratio were able to support SWRs of at least 5.7%. In periods of high starting valuations, this SWR lowers to 4.4%. Note the 4.4% SWR rate is the same as the rate in Bengen's study. This is to be expected as Kitces essentially takes Bengen's results and segments them by their starting valuations. Thus, Bengen's worst case scenario is also Kitces' worst case. Kitces' adjustment is simple yet yields a powerful insight. His results are summarized in the following table:

Quintile	Upper P/E (CAPE)	Lowest SWR	Highest SWR	Average SWR
1	12	5.70%	10.60%	8.10%
2	14.7	4.80%	8.30%	6.70%
3	17.6	4.90%	8.10%	6.30%
4	19.9	4.90%	7.20%	5.80%
5	28.7	4.40%	6.10%	5.10%

The third study on this topic was conducted by Jonathan Guyton in 2004^v. Guyton makes the observation that most retirees tend to cut back their spending when the stock market performs poorly. Like most of us, retirees see the economic slowdown, feel more cautious and reduce their spending. His analysis explores the impact on SWR if retirees simply sacrifice an inflation adjustment in the years when the stock market return is negative. He finds that doing so increases Bengen’s minimum SWR from 4.4% to 5.4%. That is nearly a 25% increase in a retiree’s initial cash flows and this increase is merely the result of modeling behavior that many retirees already practice – they cut back spending when the market does poorly. In return, they gain a higher distribution rate in the years the stock market delivers a positive return.

The last of these studies is DALBAR^{vi} and it is arguably the most important of the four. The findings of this study are relevant to all investors, not just retirees. DALBAR is an independent “think tank” whose focus is understanding investor behavior and the impact this behavior has on the returns actually achieved by investors. Their findings and the

associated implications are nothing short of startling.

The most recent DALBAR study evaluated the returns delivered by mutual funds versus the returns that investors actually received in those very same funds. Over the 20 year period from 1990 to 2009, the mutual funds in this DALBAR study delivered an average annualized return of 8.8% per year. However, the investors in this very same set of mutual funds saw an average annualized return of just 3.2% per year. Why? DALBAR’s findings place the blame primarily on investors’ tendency to chase last year’s

“Over the 20 year period from 1990 to 2009, the mutual funds in this DALBAR study delivered an average annualized return of 8.8% per year. The investors in this very same set of mutual funds saw an average annualized return of just 3.2% per year. Why? ”

investment winners and to sell last year’s underperformers. The investors’ efforts to find the next hot fund, unfortunately, results in them

buying high and selling low – over and over again.

The implications of such drastic underperformance is severe. For illustration, let’s assume an investor starts with \$1 million, takes an initial withdrawal of 4.5% of the account’s starting balance and increases this withdrawal amount each year for inflation (assumed to be 2%). Over the 20 year period, the client who “merely” achieves the average return of the mutual funds in which she has invested has nearly 7 times the ending balance of the person who receives what the average investor in these very same funds achieved.^{vii}

Is it likely that the wise investor who merely achieves the market's average return will have 7 times more money than the investor chasing last year's winners? No, for a variety of reasons beyond the scope of this paper. However, this study shows the tremendous importance of making good investment decisions and the scale of the potential consequences associated with poor decisions.

What steps can be taken to avoid making these all too common mistakes? First and foremost, consider developing a sound framework for making good

decisions and seek out strong counsel when necessary. While some enjoy running solo most of us can benefit by working with a skilled and experienced wealth adviser who can weave the theoretical & academic guidance into the reality of who you and your spouse are as individuals. One who fully understands your goals and needs and who is unbiased and free to bring his or her best investment decisions without regard to his compensation schedule.

Avoiding common investor errors is the result of making not just one good decision but rather the result of making a series of good decisions. As such, it can be extremely beneficial to have an ongoing relationship with your adviser and to meet regularly to discuss changes in your life, changes in your goals and to consider tactical and strategic changes to your portfolio as necessary.

Retirees should take comfort in knowing that the important topic of SWR has been studied extensively and that several useful insights have come out of these studies. However, it is important to note that there are critical limitations to this work. All of the research to date has relied on a very small data set. Since 1926, there are fewer than 60 sets of 30-year market returns. By definition, the first 30-year

return from this data set was not available until 1956. Equally important is recognizing that all of these studies rely on backward looking data. The world has a way of changing and whether

the next 85 years will look like the last 85 years remains to be seen. We suspect it will not.

Also, life and the stock market do not follow normal bell curve distributions. We have all seen that events (both good and bad) have a tendency of happening more frequently than our college statistics professor would have suggested.

Even the simplest assumption inherent in SWR, that spending will remain relatively constant during retirement, is flawed. Most retirees find that spending needs change as they journey through retirement. Often, early in retirement, clients take trips or pursue a new hobby. Health tends to be good, travel is physically easy and clients find themselves with the true luxury of having both money and free-time simultaneously. Later in retirement, the big trips have been taken and it becomes more challenging physically to travel or to pursue that

“Most retirees are wise to think about their spending as a ‘barbell model’. Spending tends to be higher at the beginning of retirement and at the end. It does not tend to be consistent year after year.”

new passion for skydiving. Life tends to slow down and so does spending. The unknown for all of us is the potential need for long-term and end-of-life care and its associated costs. Most retirees are wise to think about their spending as a “barbell model”. Spending tends to be higher at the beginning and end of retirement with a lull in the middle. It does not tend to be consistent year after year.

So where does this leave the client preparing for retirement? One of the first steps is to get a pretty solid understanding of the pre-tax cash flows you will need to support your desired retirement lifestyle for perhaps the next five years. After social security, pensions and other sources of income, how much of this cash flow needs to come from your investment accounts? Don't forget to include the likely income taxes you'll owe which will vary depending on the type of account from which the withdrawals are made.

Understand that these cash flows may increase or decrease down the road but looking at the next five years is a good place to start. From there, determine what percentage of your investment accounts this initial withdrawal rate represents.

A comfortable range is likely in the neighborhood of 4% - 6%. The closer you are to 5% or less, the higher the likelihood that the rate is sustainable. As you approach 6%, you want to be aware that you might have to make some adjustments in the future depending on

how events unfold. If you exceed 6%, expect that you may very well have to make trade-offs between current cash flows and long-term security.

If you do find yourself above a 6% withdrawal rate, avoid the temptation to take additional risks with the hopes of a big return. The additional risk might work out but, frankly, the odds are not in your favor. With extra risk often comes extra volatility and you may very well succumb to fear if the investment sours – making your situation more challenging, not less.

Also avoid the temptation to invest in opportunities where your money is locked up for a period of time or in which you incur a penalty should you change your mind. The world has a way of changing and you want the flexibility to adjust to these changes as necessary.

In summary, there are several important studies to help retirees gain clarity in deciding how much money they can safely withdraw each year from their retirement accounts. I will share again that I feel the goal is not just determining “the answer”. Rather, the goal is to put yourself in a position where you are likely to make a series of good decisions as life (and the market) happens.

Doug Wells is a Partner at Albion Financial Group. Mr. Wells earned his MBA from Stanford University and is a CFA and CFP. He can be reached at 801-487-3700 or at dwells@albionfinancial.com.

Albion Financial Group is a fee-only Wealth Management firm that has been recognized by *Barron's* magazine and *Worth* magazine as one of the "Top 100 Independent Financial Advisers in America". More information is available at www.albionfinancial.com.

ⁱ Bengen, William P. 1994. "Determining Withdrawal Rates Using Historical Data." *Journal of Financial Planning*, vol. 7, no. 4 (October):171-180.

ⁱⁱ Lynch, Peter. "Fear of Crashing." *Worth*, September 1995.

ⁱⁱⁱ Burns, Scott. "Dangerous Advice from Peter Lynch" Dallas Morning News October 1, 1995. http://assetbuilder.com/blogs/scott_burns/archive/1995/10/01/Dangerous-Advice-from-Peter-Lynch-.aspx

^{iv} Kitces, Michael E. 2008. "Resolving the Paradox – Is the Safe Withdrawal Rate Sometimes too Safe?" *The Kitces Report*, May 2008.

^v Guyton, Jonathan T. 2004. "Decision Rules and Portfolio Management for Retirees: Is the 'Safe' Initial Withdrawal Rate Too Safe?" *Journal of Financial Planning*, vol. 17, no. 10 (October):54-62.

^{vi} Dalbar, Inc. and Lipper. "Quantitative Analysis of Investor Behavior". March 2010.

Assumptions	
Withdrawal Rate	4.50%
Inflation	2.00%
DALBAR MF Return	8.80%
DALBAR Inv. Return	3.20%

vii

Dalbar Average Mutual Fund Return Analysis			
Date	Beginning Balance	Withdrawal	End of Year Balance
1990	\$1,000,000	\$45,000	\$1,043,000
1991	\$1,043,000	\$45,900	\$1,088,884
1992	\$1,088,884	\$46,818	\$1,137,888
1993	\$1,137,888	\$47,754	\$1,190,268
1994	\$1,190,268	\$48,709	\$1,246,302
1995	\$1,246,302	\$49,684	\$1,306,293
1996	\$1,306,293	\$50,677	\$1,370,569
1997	\$1,370,569	\$51,691	\$1,439,488
1998	\$1,439,488	\$52,725	\$1,513,439
1999	\$1,513,439	\$53,779	\$1,592,842
2000	\$1,592,842	\$54,855	\$1,678,157
2001	\$1,678,157	\$55,952	\$1,769,883
2002	\$1,769,883	\$57,071	\$1,868,562
2003	\$1,868,562	\$58,212	\$1,974,783
2004	\$1,974,783	\$59,377	\$2,089,188
2005	\$2,089,188	\$60,564	\$2,212,472
2006	\$2,212,472	\$61,775	\$2,345,394
2007	\$2,345,394	\$63,011	\$2,488,778
2008	\$2,488,778	\$64,271	\$2,643,520
2009	\$2,643,520	\$65,557	\$2,810,593

Dalbar Average Investor (in Same Mutual Funds) Return Analysis			
Date	Beginning Balance	Withdrawal	End of Year Balance
1990	\$1,000,000	\$45,000	\$987,000
1991	\$987,000	\$45,900	\$972,684
1992	\$972,684	\$46,818	\$956,992
1993	\$956,992	\$47,754	\$939,861
1994	\$939,861	\$48,709	\$921,227
1995	\$921,227	\$49,684	\$901,023
1996	\$901,023	\$50,677	\$879,178
1997	\$879,178	\$51,691	\$855,621
1998	\$855,621	\$52,725	\$830,277
1999	\$830,277	\$53,779	\$803,066
2000	\$803,066	\$54,855	\$773,910
2001	\$773,910	\$55,952	\$742,723
2002	\$742,723	\$57,071	\$709,419
2003	\$709,419	\$58,212	\$673,908
2004	\$673,908	\$59,377	\$636,097
2005	\$636,097	\$60,564	\$595,888
2006	\$595,888	\$61,775	\$553,181
2007	\$553,181	\$63,011	\$507,872
2008	\$507,872	\$64,271	\$459,853
2009	\$459,853	\$65,557	\$409,011