Growth Rate in Retirement Portfolios

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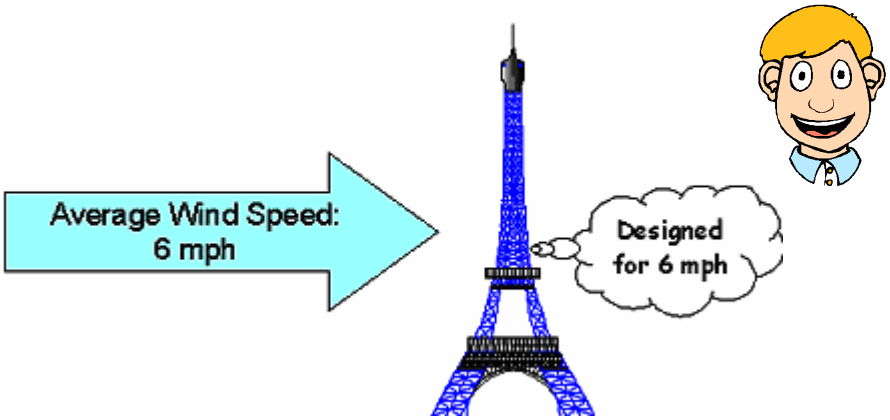
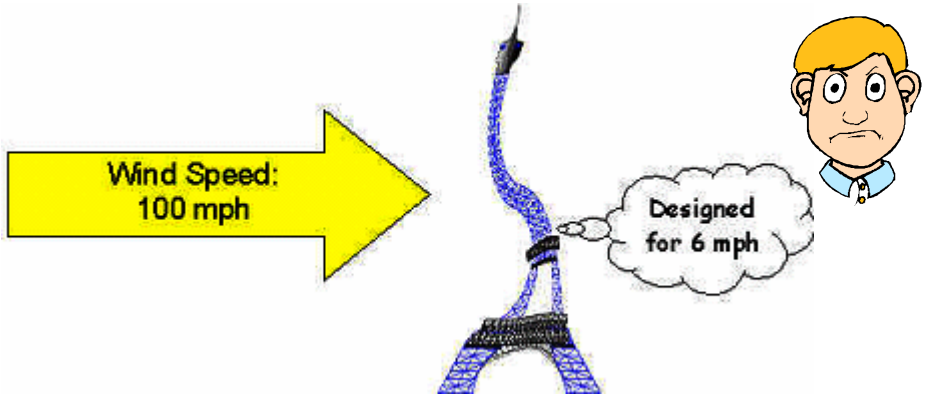
Last time I spoke to a group of professionals about advanced retirement planning, I asked a simple question: “When you design a retirement plan for your clients, what portfolio growth rate do you assume?” The answers ranged from 6% to 10%.

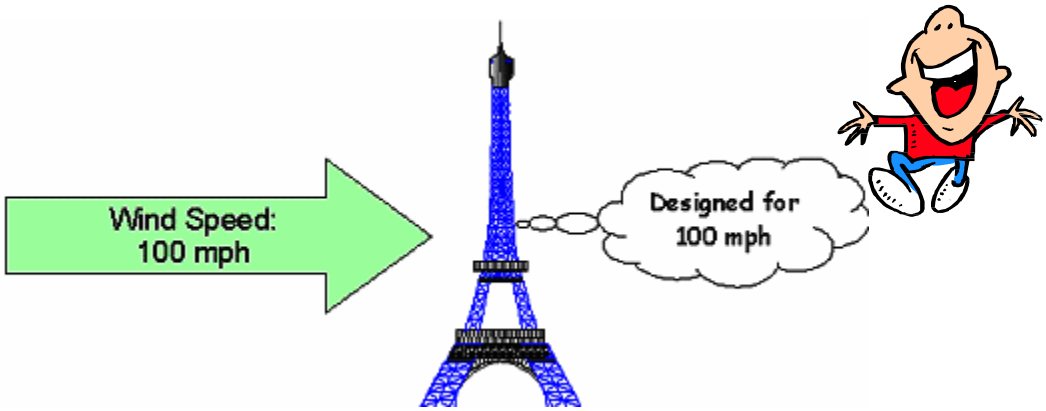
Well, what growth rate are we supposed to use for retirement portfolios?

When I changed my career from engineering to financial planning over ten years ago, one particular process amazed me very much: Advisors assume an "average" portfolio growth rate, plug that number into a retirement calculator and call this “designing a retirement plan”.

Imagine a civil engineer saying, “The average wind speed in Paris is 6 mph. Therefore, I will design this building for a wind-load of 6 mph” This engineer would be fired on the spot for incompetence! What happens when a hurricane hits?







The same way an engineer designs a product to withstand adverse conditions; financial planners should establish proper design criteria for retirement plans. We must avoid using the "average" growth rate in retirement planning. There are many reasons for performing worse than the average: timing of your retirement relative to a secular bull market, reverse dollar cost averaging, variations to inflation, to name a few.

The following table shows the percentage of portfolios that ran out of money before the retirement calculator projected, based on market history since 1900:

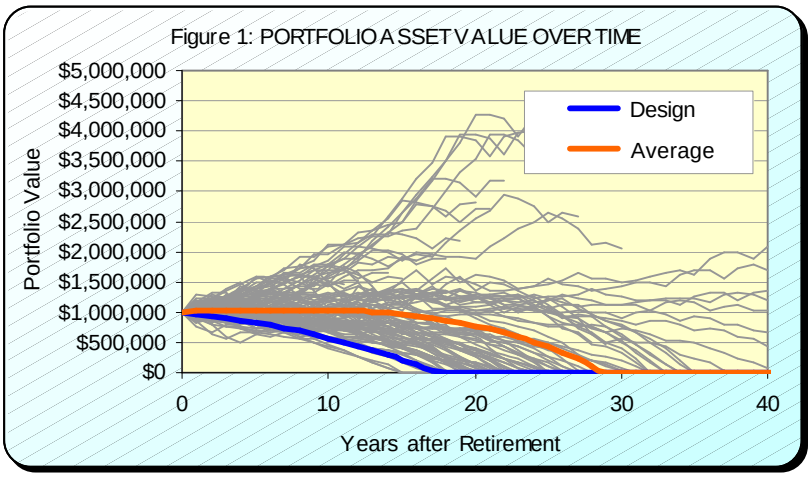
	Initial Withdrawal Rate (IWR)	
	6%	8%
	Percentage of portfolios that ran out of money before the retirement calculator projected:	
Asset Mix: 60% Fixed Income / 40% Equity		
If you assume 6% Average Growth Rate	49%	52%
If you assume 7% Average Growth Rate	70%	63%
If you assume 8% Average Growth Rate	88%	72%
If you assume 10% Average Growth Rate	88%	99%
Asset Mix: 30% Fixed Income / 70% Equity		
If you assume 6% Average Growth Rate	53%	48%
If you assume 7% Average Growth Rate	66%	57%
If you assume 8% Average Growth Rate	76%	71%
If you assume 10% Average Growth Rate	79%	97%

As you can see, using an average growth rate is obviously not acceptable, as it jeopardizes clients' livelihood when they are most vulnerable.

Design Growth Rate:
When I prepare a retirement plan, I look at historic outcomes and then use the bottom decile. Doing so, I am on the conservative side because only 10% of portfolios did worse than the bottom decile. This is a survival rate of 90% and an acceptable design practice for me. I call this the "design growth rate".

Example: Steve, 65, is retiring this year. He has saved $1 million for his retirement. He needs $60,000 income each year, indexed to inflation. His initial withdrawal rate is 6%, calculated as $60,000 divided by $1,000,000 expressed in percentage. His asset allocation is 40% equity and 60% fixed income. His equity portfolio outperforms the index (DJIA) by 2%. I plug in these numbers into my retirement calculator (available at www.retirementoptimizer.com).

Figure 1 depicts Steve's portfolio value over time. Each gray line shows the portfolio value if Steve were to retire in any of the years since 1900. The blue line shows the bottom decile, i.e. the design growth rate. The orange line shows the average growth rate of 7%.



As you can see, most portfolios expired before the time that a retirement calculator projected using the average growth rate. On the other hand, much fewer portfolios ran out of money before the bottom decile (blue line) did.

The table below depicts the design growth rates based on market history since 1900. They have been calculated using 3% inflation. If you are using a standard retirement calculator, enter 3% for the "assumed" inflation. Then enter the design growth rate from the table as your "assumed" portfolio growth. The resulting asset projection will then illustrate a 90% survival rate. Keep in mind; these figures apply only to individual distribution portfolios. The figures are different for pooled portfolios (pensions) or accumulation portfolios.

	Initial Withdrawal Rate (IWR)			
	2%	4%	6%	8%
Design Growth Rate	**5.8%**	**5.2%**	**4.0%**	**2.4%**

By following this methodology, not only do you design robust retirement plans but you are also bulletproofing your practice, as your clients cannot blame you for using unrealistic growth rates.

Jim C. Otar, CFP, CMT, BASc, MEng, is a certified financial planner, financial writer, market technician and a professional engineer. He is the author of "High Expectations & False Dreams – One Hundred Years of Stock Market History Applied to Retirement Planning". His articles are published in various magazines in Canada, U.S. and Australia. He won the prestigious CFP-Board Award for 2001 and in 2002 for his articles, the first Canadian to win such a prestigious award.

