THE ASSET ALLOCATION MYTH

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While the debate about to what degree asset allocation affects your return continues, skilled practitioners are focusing on what really matters. This article exposes the myths of asset allocation including how little it may impact your results and how millions of investors are actually increasing the risks they are trying to avoid by following the current conventional wisdom.

Asset allocation, that magic elixir of investing, has become the cure all for meeting your objectives. Since the widely publicized Brinson Beebower study proclaimed that over 90% of an investor's return was "due to" their overall asset allocation, the financial services industry and academics have been debating the topic. "The Grinch that Stole Asset Allocation" countered with a paper demonstrating that security selection could have a much greater impact than the overall asset allocation, to the cheers of stock pickers everywhere. Objective analysts followed with an explanation that both were right and that it was merely how each had framed their analysis that caused the differing opinions. All of this debate is focused on the admirable goal of improving your return and/or lowering your risk.

The theory behind asset allocation is based on some simple premises. The core theory is that by blending two or more assets that do not move in lock step (correlation), one can improve their return per unit of risk. This can be proven by simple mathematical models that are typically plotted on an XY chart showing the intersection of the risk point (typically standard deviation, but it can also be semi-variance or downside risk) and the return point for a given blend of assets. "Optimized" portfolios can be manufactured through mean-variance optimization, which creates an "efficient frontier" of portfolio blends, i.e. portfolios that produce the highest return per unit of risk.

Much of the theory dates back to work done long ago by Bill Sharpe and Harry Markowitz. Their work, now widely accepted and some of it Nobel Prize winning, has become the "Investing 101" of investment management.

Sometimes, however, theories fail in practice. That is the case with asset allocation. Many practitioners (including Sharpe himself) have given up on the basic asset allocation theory and the "optimized" portfolios that go with it, that when further researched failed in practice. Testing asset allocation theory using Monte Carlo simulations (like Sharpe's Financial Engines) or through historical back tests with www.financeware.com, one easily demonstrates that the basic theory of asset allocation is predictably helpful only to investment portfolios that never have any contributions, withdrawals, taxes, dividends or interest[1]. For the theoretical portfolio that is free from these realities, asset allocation is Nobel Prize winning work. For the rest of us that have to deal with these realities, it may actually cause more harm than good.

[1] Monte Carlo simulations randomly create hundreds or even thousands of fictitious return series to simulate potential market environments while historical back tests analyze numerous actual market environments. Both theories produce a distribution set of ending portfolio values that can be ranked on their probability of being achieved. Asset allocation, as it is currently practiced, optimizes the mean return per unit of risk. Obviously, the market doesn't produce that same mean return each year. Given that one's ending result will be significantly impacted by the amount of money they have when high or low returns are achieved, a portfolio that starts with $100,000 and received a 0% return the first year, contributes $1 million dollars and has a 20% return the next year will have a total profit of $220,000. The same portfolio with the returns in opposite order will have only $20,000 of profit, even though the mean return was the same.

This isn't to say that in some cases the theory may work. Whether the theory does or does not work depends entirely on the plan and not the fundamental soundness of the theory. Take Sally for example, who has landed her dream job and can finally afford to start contributing to her 401k. She has no savings (other than cash emergency funds) or investments, but she can now contribute the maximum $10,000 to her 401k. She is counting on the contribution ceiling being adjusted each year for inflation (she's assuming 3% inflation) and she plans to have her contribution keep pace with those adjustments. Being young and planning on least 20 years of contributions until she would consider retiring, what allocation should she choose? (For ease of comparison, we are going to limit the choices to large cap stocks and long term bonds. Many asset allocation models assume many more asset classes but the most extreme comparisons can be demonstrated by using these basic classes. Adding more classes will merely add incrementally to the basic comparison.)

Due to the fact that she is young, has a long investment horizon and therefore should be able to tolerate a fair amount of risk, one might suggest she put all her money in stocks. If we run her plan under the two investment portfolios, using both Financial Engines and www.financeware.com, first applying a 100% stock allocation and then a 51/49 blend of stocks and bonds, then compare those results to using rolling twenty year geometric mean returns from Ibbotson Associates (for purposes of comparing the assumptions you'd get from traditional asset allocation), you'd end up with these future values:

Ending Values in Today's Dollars for Sally:

	Historical Back Test	Monte Carlo	Traditional Mean Return
100% Stocks	***FPA***	***Financial Engines***	***Asset Allocation***
50th percentile	$503,567	$384,000	$463,371
Top 5%	$807,817	$871,000	$796,012
RISK			
Bottom 5% 20 Years	$243,915	$170,000	$261,084
Bottom 5% 2 Years	$17,716	$17,800	$18,643
Bottom 10% 2 Years	$18,159	N/A	$19,850
Bottom 33% 2 Years	$19,630	N/A	$20,144
51% Stocks/ 49% Bonds	***FPA***	***Financial Engines***	***Asset Allocation***
50th percentile	$328,505	$322,000	$323,716
Top 5%	$552,938	$514,000	$510,158
RISK			
Bottom 5% 20 Years	$232,117	$177,000	$237,403
Bottom 5% 2 Years	$18,456	$18,700	$18,781
Bottom 10% 2 Years	$18,725	N/A	$19,055
Bottom 33% 2 Years	$19,526	N/A	$19,726

As one would anticipate, the results for this investor are improved by allocating the assets to stocks (except for the bottom 5% using a Monte Carlo simulation and the short term downside risk). We also see that if we look at the worst short-term results (a good measure of risk since loss of money is how most investors view risk) the difference between the allocations is not all that large compared to the long-term benefit of the riskier stock portfolio. This is obviously why young investors with long time horizons should hold stocks.

The other conclusion one might draw from the above is that using the geometric mean return is a pretty good way of estimating future results. Applying the average returns for the 20 year market cycles really

didn't produce materially different results than the actual pattern of market returns or the returns simulated in the Monte Carlo method.

This is an example of "good advice". If the investor had no contributions or withdrawals and just had a beginning portfolio value, the back tests and mean return methods would produce identical results. However, every plan is different and the amount of estimation error you get by applying the mean return instead of a more realistic market pattern of returns is dependent on the unique investor's situation. If anyone ever shows you one of the XY charts and attempts to use it as evidence as to why their recommended allocation is better, then ask them to show how that applies to your plan. If the response is to show you the results based on the distribution of long term mean returns, show them the following example:

Joe is a 65-year-old investor who has accumulated $1 million in retirement assets. He plans on living for another 20 years and during retirement withdraw $45,000 in annual income, adjusted for 3% inflation. We couldn't use Financial Engines to test the results using a Monte Carlo methodology because it assumes that once you retire you purchase a guaranteed annuity. We also added a couple of other risk measures that aren't applicable in Sally's example but are perhaps the most important risks for a retired investor. The added risk measures are the youngest age at which you would run out of money (at the bottom 5%) and the percentage chance you have of running out of money. The results in today's dollars for the two allocations are as follows:

	Historical Back Test	**Traditional Mean Return**
100% Stocks	***FPA***	***Asset Allocation***
50th percentile	$587,617	$1,506,146
Top 5%	$4,848,539	$5,748,219
RISK		
Bottom 5% 20 Years	$(467,222)	$(99,125)
Bottom 10 % 20 Years	$(299,707)	$(38,526)
Bottom 33% 20 Years	$19,971	$496,844
Bottom 5% 2 Years	$611,581	$706,293
Bottom 10% 2 Years	$705,263	$941,488
Bottom 33% 2 Years	$948,622	$1,003,358
Youngest Age You'd Run Out of Money	77	83
Chance of Running Out of Money	1 in 3.57 or 28%	1 in 6.66 or 15%
51% Stocks/ 49% Bonds	***FPA***	***Asset Allocation***
50th percentile	$27,088	$253,352
Top 5%	$1,834,585	$2,008,741
RISK		
Bottom 5% 20 Years	$(313,937)	$(178,278)
Bottom 10% 20 Years	$(271,386)	$(165,445)
Bottom 33% 20 Years	$(133,102)	$26,714
Bottom 5% 2 Years	$728,394	$813,853
Bottom 10% 2 Years	$782,728	$867,864
Bottom 33% 2 Years	$916,366	$915,817
Youngest Age You'd Run Out of Money	78	81
Chance of Running Out of Money	1 in 2.17 or 46%	1 in 3.08 or 32.5%

The estimation error for Joe's plan from using traditional mean return projections is quite astounding. The 50th percentile mean return for the 100% stock allocation, when applied to Joe's plan**, projected over $1.5 million in assets at age 85**. The actual results using the identical market periods with the same mean returns,

showed that **half the time he would have ended up with less than $587,000 based on the pattern of actual market returns.**

Here is where "good advice" can turn bad. I am confident that there are many "Joe's" out there who after having run projections using mean returns may decide that they would be better off with the 51/49 blend of stocks and bonds. After all, the downside risk and short-term volatility is so much lower. They might think to themselves, what do I need with $1.5 million at age 85? Even if they do look at the probabilities, which is rarely done with mean return projections, they see that they run out of money in the bottom decile of results for both allocations. And, in the bottom third of results, they don't run out of money for either of the allocations. So why take the risk? That comfort level Joe has, believing he has less than a one in three chance of running out of money, is a false sense of security. **That more conservative allocation has a 46% chance of causing him to run out of money!**

What mattered at the end of the day to Joe was the ultimate wealth his plan produced. In his case, the result was determined more by when returns were achieved rather than the average return achieved. Using a tool like www.financeware.com, you can check the wealth impact to your plan of this effect.

This isn't meant to say the asset allocation is bad…it is just incomplete. In financial services' attempt to simplify the measurement of success, they have over simplified it to the point of being potentially misleading. The idea is not that mean variance optimization doesn't produce a higher mean return per unit of risk, in theory, and often in practice, it does.

The problem is simply that a higher mean return may have no impact at all to the ultimate wealth result for the investor. The industry has completely ignored the fact that it only accurately projects future values in the absence of realities like deposits, withdrawals, taxes, dividends and interest.

How something that in reality has no mathematical relevance to the way our portfolios exist became a standard measurement tool (time weighted returns) will perhaps remain a mystery. Hopefully, going forward we will not measure what happened using a yardstick to measure the temperature, but instead both clients and advisors will adopt the method of regularly reviewing the likelihood of meeting the investor's wealth goals.

If you are still skeptical, sign up for a free financial advisor account and review the sample client we set up for you. Look at the probability analysis from the "View Plan" section to see how 150 to 300 basis points of lower return could mean millions more of wealth.