

What do football and investment benchmarking have in common?

Too-frequent comparisons can cause harmful, knee-jerk reactions

During a recent football game between the University of Notre Dame and the University of Wisconsin, Wisconsin had the ball and was facing a 4th down and needed to gain 3 yards to make a first down. It was early in the second quarter and the ball was spotted on Notre Dame's 43-yard line. Wisconsin coach Paul Chryst left his offense on the field, choosing to go for a first down rather than punting the ball. The announcers initially said "great idea...if Wisconsin makes a first down." When the Badgers failed to convert, both concluded it was a poor coaching decision. However, did the outcome of the play actually determine the quality of the decision? Coaches never know the future, so they have to make decisions based on the available information at a particular point in time. If the goal was to win the football game, historical statistical data would suggest that the probability of making the first down under those circumstances is extremely high. It would be a mistake to evaluate Coach Chryst on his decision to go for it based on what happened on the play. Applying the available evidence and available data, he made the right call.¹

Like the game announcers, many investors make a similar mistake in evaluating their portfolios, and the advisors that implement them. Often these evaluations are based on short-term outcomes rather than on either long-term goal achievement or evaluating the inputs to decisions that have uncertain and unknown outcomes. Investors often use benchmarks to evaluate performance over time periods that say little about portfolio construction or the components of that portfolio construction. Investors need to carefully consider how to best approach performance evaluation and the application of portfolio benchmarks.

Benchmarking can provide important investor insights

Portfolio construction involves a range of decisions. Beyond determining the appropriate market exposure based on risk tolerance, portfolios embed a number of important investor decisions including:

- › Equities vs. fixed income
- › Passive vs. active
- › U.S. vs. non-U.S. exposure
- › Value equities vs. growth equities
- › Large caps vs. small caps
- › Credit quality and duration
- › Liquidity
- › Market completion

Investors need some way to evaluate their investment decisions, and the decisions of their advisors and managers. Portfolio benchmarks can be useful tools for doing so, and the impact of those decisions on the portfolio. Comparison of the portfolio to different types of portfolio benchmarks can provide investors useful insights. Is the portfolio performing in accordance with expectations? Why or why not? What explains variance, and are we still comfortable with the inputs that drove that variance? Are we adding excess returns or alpha beyond capturing full market returns? These are all important questions that a careful analysis, using benchmarks and other sources of data, can help answer.

Applying the correct time horizon

The problem is this analysis is only useful over reasonable time frames, and if applied to shorter periods or as the sole measure can lead to misunderstanding the portfolio and its efficacy. Portfolios are built around expected return that are only reasonable over full market cycles, with a range of different inputs and assumptions that are used as the basis for this construction. However actual returns are uncertain.

$$\text{Actual returns} = \text{expected return} + \text{unexpected return}$$

Over the short- and potentially even medium-term the unexpected returns will dominate the outcomes, leading to variance versus expectations, and potential underperformance of portfolios. The unexpected return will likely be a significant driver of outcomes for periods under five years, and potentially even longer periods. This variation can cause even the best long-term strategies to underperform alternative allocations for long time periods.

Demonstrably, portfolio favorable strategies – for example, overweighting equities over bonds – can and will underperform expectations for long periods of time. Through the 1970s treasuries outperformed equities. That did not mean overweighting equities vs. treasuries in the 1970s was a bad strategy; rather unique market conditions and bad luck/timing led to that strategy underperforming both expectations and alternative strategies for a long period of time.

What is being measured?

“Success” in investing is less obvious than investors generally expect, and often hard to distinguish with random variation. Investing is perhaps the most competitive industry in the world, and successful investors should be expected to provide positive portfolio or investment decisions somewhat more than 50% of the time, but probably not much more. Renaissance technologies – the most successful hedge fund in the world - wins at about 52% of its investment positions.² A portfolio manager, depending on the degree of active implementation in the portfolio, is seeking to add perhaps 50-100 bps of additional return to the investment portfolio above fees. In a portfolio with a standard deviation of 15% success over time periods for less than 10 years is going to be very difficult to discern from random variation or luck. If an investor was comparing two portfolios, one with a 6% annual return and the other with a 6.5% return but uncertainty about which was which, each with a standard deviation of 15% and a lognormal distribution of returns, it would take approximately 400 years of data to determine with a 75% confidence level which was the 6.5% portfolio. Statistical significance takes considerably more data than most investors consider, and evaluations of even clearly superior investment strategies over short time periods are likely to be inaccurate.

Any strategy designed to pursue excess market return, by definition, will have long periods of adverse performance. Risk, by its very nature, involves variance, otherwise there would be no compensation to an investor for taking any position at variance to the market. Only a Bernie Madoff-like scheme delivers on expectations like clockwork. Underperforming strategies, if based on long-term evidence of positive portfolio contribution, will often deliver on expectations over long investment periods. Over reliance on short-term benchmark measures will often lead to additional portfolio and investment modifications, as investors and their advisors overreact to the implicit signals from this type of analysis. Most investors face a far bigger risk in responding preemptively to such performance variations, hurting their investment prospects; rather than being patient and sticking with their strategy over the long term. Most investor portfolios underperform the funds and strategies they are in – behavioral biases tend to shift asset allocation and risk exposure on and off, often in response to the short-term evaluation of relative and absolute performance.

How to appropriately apply benchmarks

As outlined above benchmark comparisons can provide useful insights into the impact of portfolio decisions on returns. But rather than focus on the outcome variance, it is critical to approach the problem in two ways. First, focus on inputs to decisions. What are the portfolio decisions based on, and are those still reasonable assessments? To what degree is the portfolio positioned to capture as much of the market return as the investor is prepared to pursue from a risk standpoint? Are active decisions within the portfolio based on evidence-based factors of market + excess return? If those decisions are based on valid inputs, benchmark measures should be applied to either confirm the variance, or identify areas of further explanation, rather than measures success or failure. Variance to a benchmark is often indicative of nothing but the natural variation of two different investment approaches. Short-term measures highlighted in red, yellow, or green, are indicative of the misapplication of portfolio performance measures. Benchmarks, especially for periods of less than five years, are only useful in

evaluating the results in the context of decision rationale and expectations, not the results themselves. In fact, adding or dropping just one quarter over such a short time frame can materially change the outcome and the conclusion.

Second, focus on long-term strategic goals. This can often create a clear disconnect from relative performance measures. Capital growth, supporting pension payments or endowment spending objectives, are often far more critical to organizational success than relative performance. The primary measure of success should be progress in support of achieving the long-term organizational goals. What would more likely trigger a search for a new provider?

- › A strategy delivering a 5% 5 year return, beating portfolio benchmarks by 75 bps?
- › A strategy delivering 9% 5 year return even with portfolio benchmarks?

Peer benchmarking is particularly problematic when evaluating in terms of long-term strategic goals. Applying peer outcomes to portfolios managed for varying goals and objectives does little to clarify the appropriateness and construction of a single organizations investment strategy. If you outperform your peers but underperform your objective, or you underperform your peers but outperform your objective... which determines success?

Conclusion

Benchmark analysis has a valuable role in portfolio evaluation, but often is overemployed as a tool for measuring performance. Positive active management excess performance is often limited, difficult to identify, and only visible over fairly long time periods. Underperformance can often be transitory. Reversion to the mean is a powerful force, and has a tendency to limit variation over time. Quarterly and annual performance evaluation is particularly fraught and should be approached with considerable caution and rarely cause either victory laps or canings. It would be much more beneficial to spend more time on inputs to portfolio construction, and the progress toward achieving long-term organizational goals, rather than performance variation analytics.

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¹<https://www.nytimes.com/2014/09/05/upshot/4th-down-when-to-go-for-it-and-why.html> ²The Man Who Solved the Market: How Jim Simons Launched the Quant Revolution

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