ADVISOR PERSPECTIVES

The Alpha Beta Chowder: Understanding Portfolio Risk and Return

Larry Siegel is Director of Research at the Ford Foundation, where he is part of a team that oversees $13 billion of assets. We had the opportunity to speak with Siegel about his latest research, which looks at some fundamental issues in investment practice – How should investors should define alpha and beta? Can the inflow of funds seeking alpha be rationally explained? Is alpha worth a high fee? Is beta worth a high fee? And, perhaps most importantly, do investors understand the limitations of skillful managers, and what investment strategies best incorporate these limitations?

Alpha and Beta for Alternative Assets

Siegel's approach, developed in collaboration with Barton Waring of Barclays Global Investors, begins with an expansion of the definition of beta, first posited by William Sharpe in 1964. Sharpe defined beta as the return from market exposure – specifically the portion of the return due to systematic risk (that which cannot be eliminated through diversification). Siegel takes this definition a step further, and defines beta as the correlation against any asset class that can be held using an index fund or ETF; beta can therefore be defined, for example, as correlation to small or large cap, value or growth, or to fixed income or international markets. Siegel stresses that a fund's exposure to multiple asset classes gives rise to the fund having multiple betas, and argues that the true performance of a portfolio must incorporate this analysis. The fund's alpha, then, is the component of return which is "value added," after subtracting out the portion due to the various betas.

The significance of evaluating performance in the context of beta and alpha is that the value added through skillful active management can be readily determined. Siegel has observed that many alternative asset managers (e.g., hedge funds) advocate that their performance should not be viewed in this context, instead urging that their performance be viewed in absolute terms. Such managers argue that they buy securities that will go up and sell securities that will go down, so their performance should be measured against a riskless asset, or against no benchmark at all. Siegel believes that the performance of these managers should not go unmeasured.

Siegel, paraphrasing Sharpe, states that "any return can be separated into a market-related part and a non-market part" and considers this the profoundest insight in finance. This insight leads to meaningful performance evaluation and attribution, skillful active manager selection, performance-based fee structures, and portable alpha strategies. It also allows Siegel to propose a strategy for constructing optimized portfolios based on alpha and risk-adjusted return, which we will discuss later.

The Price of Alpha (and Beta)

Across the market and before costs, alpha is a zero-sum game; after costs it is a negative-sum game. But beta is not a zero-sum game. Beta delivers a return commensurate with the market or an asset class, reflecting the growth of the economy or an aspect of it (i.e., the economy is not a zero-sum game). Siegel further observes that, despite the fact that active management is an exceedingly difficult task, the overwhelming majority of investors choose active management over passively managed index funds. What many investors may not acknowledge is that, with active management, they are making both a beta "bet" and an alpha "bet" – their returns will come from the market or asset class returns, as well as from the value added through skillful management. Making this intellectual separation, between the alpha and beta bets, is a key to good investing.

A primary reason why alpha is expensive is that there is no value in mediocrity. Siegel contrasts this with other human activities, such as medicine. For example, if someone is critically injured and needs immediate medical attention, an average doctor is in fact very skilled, and might suffice; at the very least, he or she would be able to keep the patient alive until expert care could be provided. Average doctors have value because medicine is not a zero-sum game. But an average investment manager will likely have a negative alpha (after costs) and is of no value to the investor. So the price to pay for true alpha – that can be consistently and reliably delivered – is going to be high.

Siegel presents a useful framework for understanding the risk-return tradeoff in beta versus alpha:

Rewards for Taking Beta and Alpha Risks	
Reward for Taking Beta Risk	Reward for Taking Alpha Risk
– Equity risk premium (or other market risk premium)	– *None* on average across market participants
– All market participants earn same reward (per unit of beta risk taken)	– But, among active managers, there are always winners and losers
– Strongly positive over long periods of time	– Winners deliver a return advantage that you get to "keep"

– Highly variable over shorter periods	– Greatest investors have earned huge alphas: Warren Buffett 8.50%/year, Peter Lynch 3.58%/year*
	– Can you pick the next Buffett or Lynch?
* Alphas calculated over 1980-2000. Lynch's alpha was earned with much less active risk than Buffett's.	

Investors get to "keep" alpha, unlike beta. By earning beta, investors are keeping pace with the market. By earning alpha, investors are putting themselves ahead of the competition. The beta decision (i.e., how much beta risk to take, and which market or asset class to bet on) should be based on the investor's time horizon, risk tolerance, and cash flow needs. Alpha decisions are based on a belief in finding market inefficiencies, identifying managers, and achieving superior performance after costs. The two decisions are essentially unrelated.

Behavioral Science, Active Management, and the Alpha Beta Chowder

Siegel contends that there are rational and irrational explanations for why active management dominates the investment industry, despite the considerable odds against investors that seek to pursue this strategy. The rational explanation stems from our competitive human nature. Investors are not satisfied with earning as much as their peers; they want to do better, in order to buy more goods and services. The irrational explanations fall into three broad categories. First, investors may view the markets as a giant lottery, and invest for the same reasons that gamblers continue to gamble – for example, a little bit of success instills confidence, and leads to the belief that they are skillful, and not just lucky. Second, investors may view themselves as athletes, and believe that if they 'try harder' they will ultimately succeed. Some investors may see marginal improvements as a result of their increased effort (which may or may not be related to those efforts) and will persevere in their investment strategy, with the belief that results will continue to improve. This learning process could be costly. Third, investors may be ignorant of the underlying science behind investments, instead believing that they can succeed through 'seat of the pants' decisions. But, Siegel cautions, successful investing requires a knowledge and application of the tools of risk management, diversification, and much more – so much that the odds against seat-of-the-pants investing producing a positive alpha after fees are overwhelming.

If investors are irrationally overconfident, overrate their skill levels, read too much into past successes, and so forth, then what defense mechanisms are they employing to perpetuate their belief in active management? Siegel's answer is that they have become accustomed to eating an "alpha-beta chowder." This chowder is the set of opaque returns reported by many alternative asset managers, who do not attribute performance to beta and alpha (e.g., hedge funds with no benchmark or index). These funds, Siegel believes, are allowing investors to think they are winners without finding out whether they really are. Investors are paying alpha fees for beta performance.

Active Management Fees

Given the opacity of performance reporting, are hedge fund fees appropriate? Should investors pay "2 and 20" (2% of assets plus 20% of returns) to hedge fund managers? Siegel cites an article by Harry Kat in the *New Yorker*, which suggests that there are only two possible explanations for these fees. Kat sought to understand whether markets could be so inefficient, and some managers so skillful – both conditions are necessary – that an acceptable rate of return could still be delivered after such high fees can been charged. Either markets are that inefficient and some investors are that skillful, or investors are fools. It is difficult to formulate a third hypothesis.

Kat's conclusion was that the fees are too high, because, in his view, hedge funds are actually delivering an exotic form of beta. Siegel terms a beta 'exotic' if it is not correlated to a pure asset class, and examples include return that is correlated to value minus growth or credit spreads. Siegel is unsure whether Kat's position is correct, but admires Kat's framing of the problem – are hedge fund fees too high or not? Siegel concludes that a few extraordinary managers clearly deserve such fees, but that most managers are far from extraordinary, and investors (as noted above) have no use for average managers (much less below average managers).

Optimal Portfolio Design

In an ideal world, Siegel argues, portfolios would be designed, built, and priced based on a complete separation of alpha and beta. This is not possible for some very good reasons. For example, some investments involve asset classes that are inherently blurred, such as real estate and private equity. Siegel advocates an investment strategy that allows the segregation of alpha and beta in a transparent model, to the extent that it is practical to do so. Such a strategy has certain key characteristics:

- Utilization of asset classes that allow a clean separation of alpha and beta. In public markets, this is possible through the use of ETFs, index funds, and market-neutral long-short funds. Advisors should be cautious with funds engaged in more complex strategies, particularly those that are not connected to an underlying asset class. Examples include market timing strategies involving switching between asset classes. Siegel notes that these can be great funds, but should be carefully understood by the advisor, adding that "if the fund manager tells you there is no market component, consider that a red flag."

- The "exotic beta" delivered by some asset classes is worth a fee between an index fee and an active fee. Try your best to negotiate such a fee in these asset classes.
- For advisors considering hedge funds, Siegel recommends working with the manager to drill down to understand the nature of the investment strategy and the asset classes or exotic forms of beta that are utilized. Siegel notes that some funds are quantitatively managed in a market neutral fashion, and theoretically should exhibit no form of beta. However, some of these funds encountered problems this summer when their risk turned out to be correlated with many other similar funds. Siegel says that "if a fund's alpha happens to be correlated with everyone else's alpha, then it is really beta – since alpha is, by definition, the *uncorrelated* component of the return."
- Finally, in some asset classes, alpha and beta simply cannot be disentangled. Private equity (including venture capital and buyout funds), private debt, private real estate, and arbitrage- or momentum-driven hedge funds are examples. Knowing that you will pay an alpha fee for the part of performance that is due to beta, invest in these only if your expected after-fee return is more than sufficient to compensate for all of the risks taken.

Siegel's goal is to move investors toward a structure where they pay "fees only for true alpha, and index fund fees for beta." Siegel is encouraged by many developments that are moving things closer to this ideal, but still sees a long way to go. In Siegel's words, "it's not the return on your investments that counts – it's the part of the return that you get to keep."