ABR Dynamic Funds' Portfolio Construction Series: Part 6

When conventional wisdom isn't wise

Risk-adjusted Expenses

Which of the following two liquid alternative investments is better? Assume anything not specified here is exactly the same.

Investment 1

- 5% annualized return (gross of expenses)
- 10% annualized volatility
- 0.10% total expense ratio

Investment 2

- 10% annualized return (gross of expenses)
- 20% annualized volatility
- 2.00% total expense ratio

Most investors think the answer is *Investment 1* because it is safer and cheaper. Congratulations to readers who correctly picked *Investment 2*. It's not a matter of opinion or style or preference or investment targets; it's just simple arithmetic. And this wasn't a trick question; the second one is better even in a zero interest rate environment. That's not a typo; the second one is better, even though the first one has a Sharpe ratio of 0.49, and the second one has a Sharpe ratio of 0.40, with a risk-free rate of 0%.

Here's the key fact that very few investors consider when comparing two investments like these: the second one requires only half the capital in order to achieve the same effect on the whole portfolio. To illustrate how important this consideration is to a portfolio, assume there is an *Investment* 3 that is just

like *Investment 2* (but uncorrelated to *Investment 2*). Let's put it all together for an apples-to-apples comparison of the two choices:

Option 1

- 100% of designated capital into *Investment 1*:
  - 4.9% annualized return (net)

➔ Overall return on designated capital: 4.9%

Option 2

- 50% of designated capital into *Investment 2*:
  - 4.0% annualized return (net)

- 50% of designated capital into *Investment 3*:
  - 4.0% annualized return (net)

➔ Overall return on designated capital: 8.0%

Investment 2 may have initially looked riskier and more expensive, but it was not. Assuming fairly normal portfolio allocations, *Option 2* resulted in about the same overall portfolio volatility* while increasing the return on the designated capital by 3.1%. Remember, expenses are anything that detracts from the bottom line. Therefore, ***Investment 1* was effectively 3.10% more expensive. If *Investment 1* is said to have expenses of 0.10%, then, in an apples-to-apples comparison, *Investment 2* can be viewed as having expenses of *negative* 3.00%.** This is what we mean by risk-adjusted expenses. Again, this was just arithmetic; the analysis did not depend on opinion or style or preference or investment targets.

*Even though the volatilities of *Investment 2* and *Investment 3* are 20% while that of *Investment 1* is only 10%, the overall portfolio volatility really is about the same for *Option 1* and *Option 2*. Three assumptions are required to calculate the portfolio volatility:

1. The designated capital for this alternative investment is 10% of the portfolio.
2. The rest of the portfolio has a volatility of 10%.
3. The correlations of all 3 investments to the rest of the portfolio and to each other are 0.

Under these assumptions, the portfolio volatility is 9.06% with *Option 1* and 9.11% with *Option 2*. That's the power of diversification!

Next Week's Preview: How long is the long-term? When can you reliably judge an investment by its returns?