

# Stay Sharpe

## By Looking at Sortino

One common investment evaluation statistic is that of the well-known Sharpe ratio. This ratio measures an investment's risk-adjusted return by taking the investment return less the risk-free rate and dividing that by its standard deviation. It is an important tool to help you decide if you are getting adequately compensated for the volatility you are assuming in the investment.

One thing hidden in the denominator of that equation (standard deviation) is that all deviation is not created equal. Upside deviation is a good thing, downside deviation is not—unfortunately the calculation does not take that into account. A fund with 5% upside deviation and a fund with 5% downside deviation could both have an overall standard deviation of 5%, but for my money I'd rather deviate on the upside than the downside.

One area where this can affect investors is when comparing two strategies with similar returns and one has higher deviation than the other. Quick thinking might lead you to believe that the fund with the lower standard deviation (thus higher Sharpe) is better, but that is not actually the case. Simply looking at this one measurement can dissuade you from a strategy that outperforms over time—when really the only reason the standard deviation is higher is because it is doing a much better job on the upside than the other strategy you are considering. This is one reason we suggest advisors don't start and stop their analysis at Sharpe Ratios, but that you should add (at least) one additional statistic each time you are evaluating a strategy: the Sortino Ratio.

The Sortino ratio is essentially a measure of downside deviation; it helps you evaluate if you are getting paid for every unit of risk you are taking. It does this by looking at the historical returns, removing any return above "0" and measuring the return minus your target (or risk-free rate) by that deviation. In simple language, the ratio provides the return on 'bad' volatility...something that any investor worried about risk-adjusted returns and keeping clients invested in all market environments should be concerned about.

Let's consider two funds with the following characteristics:

	Fund A	Fund B
Average Return	20%	18%
Standard Deviation	12%	12%
Downside Deviation	10%	6%

### KEY TAKEAWAYS

- Sharpe Ratio measures an investment's risk-adjusted return by taking the investment return less the risk-free rate and dividing that by its standard deviation.
- All deviation is not created equal though. While upside deviation is a good thing, downside deviation is not and the Sharpe Ratio does not take that into account.
- Sortino Ratio is essentially a measure of downside deviation; it helps you evaluate if you are getting paid for every unit of risk you are taking.

Both funds have the exact same standard deviation so calculating the Sharpe Ratio would lead you to conclude Fund A is better (1.67 vs 1.50) on a risk/adjusted basis. However, if you take it a step further and measure the Sortino Ratio, you get a slightly different story. Fund A has a Sortino of 2 while Fund B has a Sortino of 3. What this number (bigger is better) essentially tells you is that while Fund B underperforms Fund A, it is much more efficient in that for every unit of risk you take, you are 'paid' 3 times the return whereas Fund A only pays you 2 on the same unit of risk. It also suggests that while the funds have the same overall standard deviation, Fund B deviates much more on the upside.

This matters in a 'dollars and cents' world as well. We all know the math around compounding and that by limiting losses over time, even while lagging on the upside, investors can come out ahead. Looking at the return for every unit of 'bad' risk you take should be of much more importance than overall volatility.

There are many ways to evaluate funds and advisors differ in their approach, we'd simply caution concluding your evaluation at the Sharpe ratio. Next time you research new managers (or as you continue diligence on the funds you already own), make sure to look at the Sortino ratio. Whenever the next bout of volatility strikes or a correction comes, you'll be glad you and your clients are getting paid for the risk you are taking.

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