

## Ideas @ Edelweiss Multi Strategy Funds – Kurtosis Kills



When evaluating a fund, an investment strategy or the returns on a past investment, pay special attention to kurtosis. Kurtosis is the fourth moment of returns and measures how fat-tailed a distribution is.

$$Kurtosis = \frac{E((X - E(X))^4)}{\sigma^2} \quad \text{where } \sigma \text{ is the standard deviation.}$$

The higher the kurtosis of the returns the more fragile, less repeatable and less consistent the process is. This is because the higher the kurtosis, greater the proportion of the overall returns is determined by a few observations. There are four drivers of kurtosis that investors should examine carefully:

**Asset Kurtosis.** Out-of-the-money options, high-yield bonds, credit-default swaps and angel investments are examples of assets whose returns are fat-tailed and prone to outlier events. Investors should examine whether the proposed strategy is poised to benefit from the outlier events as opposed to being victim to a large crash.

**Weight Kurtosis.** Portfolios with a few concentrated positions or with extreme marginal contributions to risk are also fragile because their returns are determined by a handful of outcomes. That's why 5 stock small-cap portfolios rarely do well.

**Time Kurtosis.** Portfolios in which the size and risk of positions varies greatly over time are also fragile because the bulk of the returns are determined by what happens over a few days or months. Strategies which attempt to time the market are an example of those that have time kurtosis.

**Liquidity.** The less liquid or the more crowded a strategy is, the more prone it is large losses in a stampede to exit.