

Ideas @ Edelweiss Multi Strategy Funds – Structured Product Participation Rate



Nassim Taleb, in his magnum opus, Antifragile - How to Live in a World We Don't Understand, explains that academics have confounded the age old practice of option trading with complex calculus and models such as Black-Scholes based on unrealistic assumptions. This is his prototypical example of how theorists "lecture birds on flying" and use mathematical techniques to destroy financial markets. Taleb rather expounds no arbitrage relationships such as put-call parity as a stronger foundation for option trading.

As an active buyer of options for hedging, we have spent a lot of time thinking of simple yet robust metrics to measure the cost of buying protection. As is widely acknowledged, deep out-of-the-money puts are more expensive than at-the-money puts (in Black-Scholes implied volatility terms) and are best positioned to gain from market crashes that happen more frequently than not. So how do you know whether protection is expensive or cheap?

One simple heuristic that we have found very useful for doing this is the structured product participation rate which equals $(1 - 1 / (1 + r)^t) / (\text{OptionPrice} \times \text{LotSize} / \text{UnderlyingPrice})$. The numerator of the formula accounts for the time value of money and refers to the fixed income component of a structured product that allows an investor to recover his capital at maturity. The denominator of the formula is simply the cost of the option as a percentage of the underlying price. In the parlance of structured finance, the participation rate tells you what percentage of the underlying index's return you can earn through this barbell strategy while still protecting your principal. The participation rate is robust because it does not rely on any model assumptions.

The participation rate is particularly relevant in Indian today because put options are extraordinarily cheap. Realized and implied volatilities are at an all time low and interest rates are the highest they've been for over a decade. This is something that the rampaging herd of perma-India bulls should stop and think about.