CTAs, Fund of Hedge Funds, and being in the moment.

I have just arrived back from Paris where I attended an insightful conference organized by SocGen. A shout-out to Rebecca Adel, Tom Wrobel, Rick Ryan for outstanding content as well as Karolina Komaniecki for ensuring the smooth running (and suggesting a great cocktail).

I have been thinking about several points made during the conference and how they link to the three moments of a Fund-of-Hedge Funds' returns: alpha, vol and skew.

Alpha

One of the CTA practitioners made the argument that you shouldn't invest in an equity index in general, and in the CTA index in particular, because had you chosen the three CTA funds that have been part of the index the longest, you would have done better. The reasoning is flawed as this is a case of survivorship bias, and it is not surprising the three most successful CTAs (at surviving index-pruning) outperformed the index.

In fact, in the face of extreme information asymmetry, selecting the index makes perfect sense: there may be a case for active stock selection when you have good public information to differentiate between Tesla and Ford. But differentiating between good and bad hedge funds is a much trickier exercise: a bit like selecting baseball players without seeing their pitch. This alpha uncertainty should drive an allocator towards multiple small bets. It is in fact surprising that an argument is even being made to select fewer managers while watching the multi managers platforms steam rolling most of the industry.

Vol

But moving away from multiple small bets is structural and is being forced upon allocators. In an allocators panel discussion, it became clear mandates have fewer and fewer line items. And the primary reason is the second moment: volatility. The more managers you hold, the lower your volatility. And funding lower volatility at 5% is tricky. There are multiple approaches to solving the "funding crisis", in increasing sophistication:

- Choosing fewer managers
- Insisting on high vol managers or on managed accounts
- Cross margining using managed accounts.

The first approach sidelines the whole issue of volatility by foregoing diversification. But putting all your investment eggs in one basket means a higher hurdle to investing in any manager.

The second approach allows you to finance each individual fund efficiently but does not address diversification: the more managers you want to hold (and you *should* want to hold more) the more acute the reduction in volatility becomes.

Cross margining using managed accounts is the way to address both individual managers volatility as well as the correlation between managers. This is precisely what gives a natural advantage to multi managers platforms, and I recommend reading Brian Hurst's excellent white paper on the matter. This is an expensive

solution but otherwise (or until financing becomes cheap again), you will be forced to reduce your line items.

But as you solve for high volatility, what happens to skew? Unfortunately, skew will be making a comeback.

Skew

Positive Skew

Let me demonstrate how skew and diversification interact by using our beloved CTA Index. We all know about the convexity of CTAs. It is structural in nature and you can read about it either in my blog or in the original paper by David Zhou et al. "Momentum Trading: `Skews me'" in Risk, August 2012.

But as another astute CTA practitioner pointed out to me at the conference, the diversified CTA index, has no right skew left. It is not because individual CTA funds selected by the index don't have positive skew, but because as we diversify, skew disappears.

This is a more nuanced argument against investing in the CTA index: investing in multiple CTAs, all trading the same risk factors, will results in a reduced positive skew. You should have multiple CTAs but try to ensure they each trade different risk factors.

Negative Skew

Positive CTA skew is key because what is going to be very painful to allocators is that most non-CTA managers have negative skew. With many diversifying managers in your book that skew takes care of itself but as you select fewer and fewer managers, the negative skew reasserts itself.

CTA allocation

The good news is that you do have CTAs that provide convexity and positive skew, but the bad news is that it may not be the specific skew you are looking for. If you are a 60/40 pension fund, what you want is bond and equity convexity and an off-the-shelf, cost-effective, big macro factors CTA will help you. If you are a fund-of-hedge-funds running few line items, with each fund in your portfolio almost *designed* to be independent of equity and bonds, a generic CTA will be less effective in helping you at time of stress for your specific portfolio. You can still buy a CTA for "general" positive skew but at this point, the alpha of each CTA and the factors they each trade should matter more to you.

Judging CTA convexity

Suppose you decide that, given your other managers, the risk factor you care about is quarterly changes in US inflation. One way to judge the CTAs you are considering is by looking at historic stress points of US inflation and looking how well each CTA did in each particular crisis point. This is useful but is also prone to overfitting. The reason is that CTA convexity implementation is an uncertain business: For a given z-score of quarterly inflation moves, we *expect* each CTA performance to be broadly:

$$\text{alpha} + \text{convexity} * z^2 + \text{noise}$$

Noise is not insignificant and the variation in any one period is quite high so fitting to a particular quarterly event in history is basically fitting to CTAs that happened to have had a lucky implementation for the way inflation played out in that historical quarter.

What I would recommend doing is also fitting the equation throughout history, on all historical quarterly changes. For each CTA you should get three numbers, each very useful: alpha is the general quality of trend implementation, convexity is how much exposure to this risk factor you can *expect* to get from each CTA and noise is about how certain this convexity is likely to materialize the next time we see a large change in US inflation.

Being in the moment

I tried here to articulate the problem I think FoHF allocators are facing with increased costs of funding. If you are a FoHF allocator looking for someone to bounce off ideas, or to tell me I got it completely wrong, I am up for a sharing a moment or two over coffee.

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