A Seasonal Magic Trick

Last week I attended Pension Bridge conference in Zurich (and thanks to Marika, Lucy, Ian and the With Intelligence team that made me feel so welcome!) After an 8am (Zurich time) start, came an outstanding talk by Francois Lhabitant from Kedge Capital. I particularly liked his assertion that we are in the "stay rich" business rather than "get rich" business. As a mathematician, this summarizes very neatly the difference between investors' preferences: "stay rich" managers maximize risk-adjusted returns while "get rich" managers are maximizing future returns.

I then flew to London and took a 90-minute meeting with an Asian client that finished just after 10pm (UK time). I was off my game. I was so exhausted I don't remember making it home or even falling asleep. What I do remember is the same question asked again and again and again (in different ways) both at the conference and at the client meeting: "Is trend dead? Should we allocate to trend?"

So today, using next to no mathematics, I am going to perform a magic trick and tell you EXACTLY what your portfolio's optimal "stay rich" and "get rich" trend allocations are. My good friend Graham tried to answer the question for the famous 60/40 portfolio in this article with lots of simulations but I can do one better. I don't need a back-test. I don't need to know what equity, bonds or hedge fund allocations you already have. In fact, I don't need to know your current allocations at all. I need just two numbers from you:

- What do **you** expect is the Sharpe of your current portfolio **going forward**?
- What do **you** expect is the Sharpe of a trend strategy **going forward**?

Before I continue with this magic trick, I want you to write these two numbers down: your expectations for your own "No Trend Sharpe" and your expectations of "Trend Sharpe". Go on, write them down.

"Get rich" optimal allocation

If you are a "get-rich" manager, you should put all your eggs in one basket. Find the stock or strategy you believe in and like Warren Buffet, ride the volatility over a 50-year horizon. Your decision is simple: if you trust that your No-Trend portfolio future expected returns are better going forward, don't invest in a CTA. It is high risk approach and is probably better named "Get rich or die trying" but you should definitely have a "get rich" pot in your portfolio, I do (it's an early-stage medical instrument company). Good luck!

"Stay rich" optimal allocation

I am going to use a sleight of hand to simplify "stay rich" investor's preferences quite a bit: e.g. Pension funds have cash outflows they need to meet, the cost of funding or the inability to take leverage may be an issue for other investors. Relative liquidity of different investments is also key. But ignore these and instead, focus on my maximizing Sharpe magic wand…

If you have two portfolios, the optimal (on a risk-basis) allocation between them depends on each future performance. Obviously, the higher your expectation, the more you should allocate. However, the correlation between the portfolios is also important. At times, even allocating to a negative alpha strategy makes sense, if it has negative correlation to your current portfolio (e.g. tail protect).

I am not going to write down the formula. It is based on marginal alpha of each strategy with respect to the other strategy, but I did promise no mathematics.

"Stay rich" optimal CTA allocation

For my magic trick, I am going to use one very simple fact: Trend is uncorrelated to your No-trend portfolio. Indeed, it does not matter what you have in your portfolio, as long as your portfolio has no trend, a CTA will be uncorrelated to it. This is broadly true historically, but more importantly, it is true, by trend symmetry, **going forward**.

This means that the complicated formula simplifies quite a bit.

ABRACADABRA!

Your optimal allocation (on equal risk basis) to trend, should be, at least.... wait for it...

Trend Sharpe / (Trend Sharpe + No Trend Sharpe)

What numbers did you write earlier? Even if you wrote "Trend Sharpe going forward = 0.2, my own No-trend Sharpe going forward = 2", you should still allocate 9% to Trend.

9%??? NO WAY???

Let us do quick calculations to confirm the Sharpe increase, assuming 10% volatility of both portfolios.

Portfolio	Allocation	Volatility	Sharpe	Profit	Risk
No Trend	$ 91.00	10%	2	$ 18.20	$ 9.10
Trend	$ 9.00	10%	0.2	$ 0.18	$ 0.90
Total	$ 100.00	9.1%	**2.01**	$ 18.38	$ 9.14

Yes way.

Do you now see why even the multi-strategy funds, with their genuine Sharpe 2, have decent allocation to trend strategies inside their pods? These guys are not stupid.

At least!

The above assumed normal distributions, with no left skew in your current portfolio. In fact, your No Trend portfolio has tons of left skew while your CTA has the magical right skew as well as crisis alpha. If you use any other "risk averse" metrics: drawdowns, Sortino, VaR, expected tail loss… ANY such metric, you should allocate more.

At most!

The example above also illustrates neatly the problem with my argument. In real life, you are unlikely to want to reduce next year's expected profits from $20 to $18.38 just to bump Sharpe from 2 to 2.01.

Equally though, more realistic numbers you probably wrote down look like “0.5 and 1.5” and the optimal allocation formula gives you 25% allocation. This is on risk-basis so if you find a CTA running at 20% risk, allocating just $10 to CTAs will sacrifice very little future expected returns to bump your Sharpe significantly:

Portfolio	Allocation	Volatility	Sharpe	Profit	Risk
No Trend	$ 90.00	10%	1.5	$ 13.50	$ 9.00
Trend	$ 10.00	20%	0.5	$ 1.00	$ 2.00
Total	$ 100.00	9.2%	**1.57**	$ 14.50	$ 9.22

Most investors don’t trust backtests, which is why I asked you to write your own future expectations. The beauty about trend as a truly uncorrelated strategy, is that regardless of your existing portfolio, the simple formula gives you an anchor to think about the range of possible allocations: 0% if you are a “get rich” and 25% if you are a “stay rich” manager. Your CTA allocation reflects your own investment preferences.

What should you do?

The only reason for you NOT to allocate to trend is if you think it is well and truly dead. If you think 200 years of data across all asset classes, and human nature of fear and greed, have all suddenly come to an abrupt end, feel free to ignore CTAs.

If not, go home and look at your current CTA allocation and at the two numbers you first wrote down. A CTA may not be the hero you want, but it may be the hero you need.

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