Twitter Thread by New River Investments Inc.

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@NewRiverInvest

here’s a slightly wonky thread that people who use post-nominal letters will not like: let’s talk about real-time learning in quant-driven strategies and how to do it in practice, because a lot us do this as a result of real-world constraints. its basically TA with a dress-code.

so lets say you found a nee factor, but data is limited becuse it is new-ish? how the hell do you implement it without waiting eons in market-time? first: in small size because distributions are unknown. second: you update the calibration parameters dynamically as you go.

sometimes i am asked why i favor matching assets with volatility estimators instead of betas:
1) volatilities are not stationary but they undergo relatively synchronized regime changes
2) exponentially weighted vols are more responsive to changes in current conditions

3) betas are not stable in shorter terms and identifying changes takes longer and in the short term you get measurement errors if your sample is driving your benchmark
4) honestly the numerical methods are just simpler and i’m a dumdum so it makes it easier for me

5) for long-only baskets of different assets it avoids painful assumptions which may be wrong about correlation, which is good when you know your sample is low quality
6) for long-short baskets of like assets it avoids painful assumptions about intercepts (and therefore betas)

what does it look like, in practice?
instead of weighing long and short baskets with betas, you just use an ewma of your preferred volatility estimator, i happen to really like GKYZ for anything involving leverage or synthetic options like “stops” or “risk-control” implementation

so you would weigh your baskets for equal vol contribution, NOT, equal beta. this helps you limit risk from changing vol regimes when they’re changing BUT introduces more risk when correlation regimes are changing: its a trade-off. you can manage by adding a vol target on strat

the vol-target on strat is also a trade-off, it will stop you out when maybe you should be adding but keep you alive longer. it will also lever you up when things are working, which you can manage with a leverage cap or using historical full-sample rolling betas/vols

these are all trade-offs and they all introduce new risks to reduce others, they add path-dependence risks, but the goal is not to make the implementation optimal since we dont know what that is, just more survivable until we have more confidence on signal value

finally if you have assumptions or evidence that measures of universe cheapness or richness are useful you can dynamically vary your net. for value if you think market is super rich you can be true neutral where as when you think market overall is cheap you can have residual beta

for momentum you can use shorter term mean return expectations to measure betas during normal markets but let yourself introduce some mean-reversion dynamically as the sharpe gets “too good” or “too bad” to clip tails and push the distribution of returns towards the bell

these are just simple illustrative methods, but you can apply them to other signals. there is no purity tests in the land of p&l, only results. if you answer to people who want index replication, replicate indices; if you answer to people who want returns, know when to clip tails

none of this is heresy. this is how an adaptive approach to portfolio management is implemented: you roll with the punches and adapt. sometimes a model that shouldnt have died dies (type 1 error) but you double-down on dead models (type 2 error) a lot less often. thats all

if you read closely you will see this is all about trading-off hero scenarios for reduction in blow-up scenarios. its basically TA-101 cut losers until new entry and ride winners with gains-taking. thats all there is. “risk management” is just buy, sell, or wait dressed-up