 Go through every single strategy with Hesam

Learn option greeks in option book

**List of Models**

**Market Neutral intraday Mean Reversion:**

Volatility dependent.

Max daily drawdown 6%

Annualised vol = 8% - 10%

Annualised Mean = 10 -12%

Capacity 500m

In low volatile regimes, applied intraday EU correlation filter

Set of parameters tests:

1st was to apply VG and ES correlation for VGES spread.

2nd tried intra EU Correlation filter, Z VG etc

Info ratio of high corr 1.7, low corr 0.4

Also tried currency adjustment, t-stats over 30 days observations.

Q: why use beta 0.5???

**FX Carry**

Explore interests rate differences between high yield country and low yield country using FX Forwards

Steps:

Forward Premium = F(t) / S(t) – 1

Rank forward premium from high to low. High forward premium currency, forwards is trading in premium go short, low forward premium currency, forwards trading in discount go short.

Basket of 18 tradable currencies, split into 4 quantiles.

Short 1st quantile, long 4th quantiles, dollar neutral.

Show proof of fx return approx. Carry return.

Sole responsibility of trading and monitoring the trade.

What is FX Carry daily mean? Or annualise mean?

**Slippage System**

excel Marco pulls booked / executed trade details. Compare with theoretical prices.

Compare execution slippage with theoretical slippage.

**Risk Parity**

Applied correlation regime on risk parity trade.

In the example of ESTY,

If TY is in highly corr with ES, does not provide hedge.

Investigate how each regime works.

Rolling daily 30-day corr, split in to 3 brackets.

Split into low/high/med Corr regime

Traditional risk premium makes no money in high med corr, makes 16bps in low corr.

During EoM period, double daily return.

**Short Vol VIX Trade**

Short Vix futures around SP option expiry (3rd Friday).

Use Vix futures term structure, contango and backwardation as addition signals.

As well as roll signal (slope / noDayToExpiry).

We always trade next month contract, ie in May we trade June since futures contract usually expiry during our entry window.

During execution, I noticed that sometimes we can trade the current month contract and returns often seems greater.

I started research on that. By trading the front month (near expiry contract), it has much higher mean but coupled with higher volatility. Since it’s near expiry, we have greater short gamma exposure. However, it does improve risk-adjusted return. Hence we changed to contract selection process.

**Design Model Updater for short VIX Trade:**

Building on existing signal monitoring framework, built an application that generates live signals and positions. Enabling trader to monitoring positions as well as facilitating execution. Parameterised trading window curve for better execution.

**Motivation to Move:**

Want to focus 100% in research projects. Working in bigger firm and team research environment.

Have exposure to different strategies and learn new ways to look at data and approach problems.

**Motivation for Research Role:**

After both trading and research experience, I believe researching is where my passion is.

Fully utilise my mathematical back ground. More room for growth and develop research capabilities.

**Questions to ask:**

Data driven research?

What’s the main programming Language?

Any Frontend programming?

Turnaround of people, is it a long-term development environment?

Expected return, vol, drawdown

Risk profile / large drawdown?

Academic team culture

Research process

Quant Researcher – Fulcrum Asset Management

**Firm**

       Firm is Fulcrum Asset Management, well-respected, tier-1 asset manager

       Founded in 2004 by Gavyn Davies, who used to be Chief Economist and Head of Research at Goldman Sachs

o   Firm manages around $6.5bn AUM, of which approximately is $1.7bn in Systematic Strategies, which is the part of the business that this role would sit in

**Systematic Team**

       Systematic team’s assets split across 4 funds (including a short vol, trend, and carry fund) investing in all asset classes (i.e. multi-asset)

       Team led by Phil Strother, ex-AHL (Senior PM) and highly respected. Team is currently 5 Quant Analysts/PMs and now he’s looking to grow his team to 6 people with this new Quant Researcher hire.

       There are 5 Quant Analysts/PMs running $1.7bn, so there is a lot of scope within a team that size to do whatever you want, however at the same time there is a lot of responsibility

       Team looking to bring in and mentor someone and really bring their markets knowledge up to scratch

**Role**

       Fulcrum are looking to bring in a Quant Analyst/Researcher

o   This person would work closely with the PMs

o   New hire will initially help with some ongoing dev projects, while also working on systematic strategy research and analysis.

o   Over time, this person will be trained up to work on big picture research topics such as portfolio construction/optimization and adding new asset classes to the portfolios, before eventually becoming an established analyst/researcher on the team

o   Important to have strong working knowledge of at least one of the following programming languages: R, Python, Matlab (Java would be a big plus)

o   Understanding of one or more major asset classes would be highly desirable as well