Rolf Waeber: PI: between research and trading.

I talked about Lonstaff Shwartz algorithm to price American options.

He also asked questions about statistic, how to assess the volume of next days:

Predictors I chose: past volumes, events, past returns

How to do a regression ? for the events, we can use an indicator as it’s not a quantitative value.

Then he asked how to get the predictors.

We minimize (Y-Xa)T(Y-Xa), develop and derive with regard to a and you will get the answer. A=(XTX)^-1 XTy.

Uddhav Sharma: I have 3 time series of datas: Investment 1, 2, and 3 and 3 investors:

1: want to get the max return

2: want to get as low risk as possible

3: highest return while minimizing risk

Used python and scipy.optimize

For 3, I used the sharpe ratio but could have used r-lambda\*Var.

Also import to look at outliers.

Alberto Botter: see description. No technical questions, did I like TA and other questions. Tax management and 5 people in his team.

Steve Lu: 3 technical questions

1: S=alpha + beta\*S&P, beta=0.8 and pho=0.5. What is the vol of the stock ? I estimated, the S&P vol to ~20% now. Beta=pho\*sigma\_i/sigma\_M giving sigma\_i=beta\*sigma\_M/pho giving sigma\_i=0.32.

He asked me to interpret Beta, pho and vol. For pho and vol, normal way and Beta includes both pho and whether the asset is more volatile than the market or not.

2: I have 2 assets S1 and S2 with sigma1=10 and sigma2=15 and pho=0.5. How to maximize my sharpe ratio ? As they have the same return, we only want to minimize variance:

Sigma^2=w1^2 \* sigma\_1^2+ w2^2 \* sigma\_2^2 + 2pho sigma\_1 sigma\_1 w1 w2

We replace w2 by 1-w1 because we have w1+w2=1 and we derive with regard to w1 to get the best weights. It’s a convex increasing function so we have a min.

3: questions about timeseries. What metrics to use ? R^2 = 1-RSS/TSS and p-value (linked to t-stat). What happens if we double the number of datas ? R^2 does not change but we have better t-stat because it increases the significance of each predictor.

Jeff Bolduc: Macro strategy / multi-Asset. Alternative risk premia

Research: what going on in a portfolio compared to what the strategy was designed for ?