IS605, 2024, Individual Assignment 2

You are working for a hedge fund and the Chief Investment Officer has sent the following email.
Make it happen, Captain!

I believe there is strong correlation between the Brent Crude Futures and the WTI Crude Futures.

I am interested to develop a "pairs" trading strategy, using a simple comparison of their closing prices to trigger trade decisions, and the 5th and 95th percentiles as the trigger.

For example, over the last 1 year or so, I see the maximum differential of Brent/WTI is 1.092239, and the 95th percentile is 1.075412.

If I get into a pair trade here, going Long on one and Short on the other, I would be able to make money when the differential reverts to the mean.

How much profit can I make on the possible pairs, using this strategy, assuming I just hold it till it reverts to the mean?

Realistically, I would need to put a stop-loss on any position.

What would my losses be if I used the 96th or 4th percentile as the stop-loss, and the 97.5th and 2.5th percentile?

What "trail" would you recommend for a trailing stop to optimize P&L? Support your answer with proof from the data set.

Submission Format: 1 single Excel workbook

Requirements: Summary of findings and recommendations on 1 tab (with Student ID clearly shown), referencing supporting data in other tab(s)

File Name convention: IS605_2024_IA2_(Student Number)

Submission to relevant elearn folder

Submission deadline: 2359h 14Jun24