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Project 1, TPPE33

The equity fund is investing in promising Canadian technology companies by converting deposits in SEK into CAD. The chosen companies vary in range, Celestica makes electronics, Kinaxis does supply chain software, Converge provides IT services, Lumine builds telecom tools, and OpenText handles enterprise data. The fund employs a dual-hedging strategy using futures to mitigate both market- and currency risks. For market risk, equity index futures are entered to offset systematic exposure when reducing portfolio beta. Currency risk is hedged through shorting CAD/SEK forwards to lock in exchange rates.

0#XXXOISZ=R (based on OIS rates) is a better choice in this project rather than **0#XXXXZ=R** (from IRS rates) because OIS rates are closer to a true risk-free rate. Since OIS rates are tied to overnight loans backed by safe collateral, they have less credit risk than IRS rates. This makes OIS rates more reliable for pricing and hedging the forwards and futures in the project.

The currency hedge appears to be effective, as we observe that the value of our forward contracts increases when the exchange rate declines. Holding cash in the foreign currency would normally result in a loss when the currency weakens, but the forward contracts offset this loss, effectively neutralizing the impact of exchange rate fluctuations.

Regarding our index futures hedge, we can see that between March 25 and March 27 — the period during which we shorted futures — the portfolio value decreased by approximately SEK 46,820,000. During the same period, our futures positions generated a gain of around SEK 44,620,000. This indicates that the losses in the portfolio were largely offset by gains in the futures, suggesting that the hedge was reasonably effective in reducing market risk.

Reflection:

The most challenging aspect of this project was to understand the connection between Refinitiv, Matlab and the Excel file. It was also difficult to find a suitable RIC for the market index and corresponding futures. Additionally, the Matlab task required a great attention of detail to get through the test script. For future projects we will be more aware of when to approximate values and when to keep the level of detail.

Overall, these tasks gave us a greater understanding of how to hedge losses by using forward- and future contracts. It also taught us the importance of fetching all data from Refinitiv in the beginning of the project since Börssalen was occupied most of the time.

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Matlab:

```
This is the result that should be appended to the report:
cashEquityTradesForeign is correct 0
commissionEquityTradesForeign is correct 7.699817e-03
fxForwardMaturityDate is correct 0
tAct365 is correct 0
impliedInterestRateDiff is correct 0
interestRateSek1Mcont is correct 0
fxForwardPrices is correct 0
fxForwardValue is correct 0
equityBeta is correct 0
equityValueForeign is correct 0
equityWeights is correct 0
equityHoldingBeta is correct 2.220446e-16
nEquityFutures is correct 9.094947e-13
settlementFutures is correct 4.656613e-10
```