AcF305: International Financial and Risk Management

Week 6 tutorial questions

1. On the morning of Monday, August 21, you purchased a futures contract for 1 unit of CHF at a rate of USD/CHF 0.7. The subsequent settlement prices are shown in the table below.

August	21	22	23	24	25	28	29	30
Futures rate	0.71	0.70	0.72	0.71	0.69	0.68	0.66	0.63

   a. What are the daily cash flows from marking to market?
   b. What is the cumulative total cash flow from marking to market (ignoring discounting)?
   c. Is the total cash flow greater than, less than, or equal to the difference between the price of your original futures contract and the price of the same futures contract on August 30?

2. You want to hedge the EUR value of a CAD 1m inflow using futures contracts. On Germany's exchange, there is a futures contract for USD 100,000 at EUR/USD 1.5.

   a. Your assistant runs a bunch of regressions:
      i. $\Delta S[EUR/CAD] = \alpha 1 + \beta 1\ \Delta f[USD/EUR]$
      ii. $\Delta S[EUR/CAD] = \alpha 2 + \beta 2\ \Delta f[EUR/USD]$
      iii. $\Delta S[CAD/EUR] = \alpha 3 + \beta 3\ \Delta f[EUR/USD]$
      iv. $\Delta S[CAD/EUR] = \alpha 4 + \beta 4\ \Delta f[USD/EUR]$

      Which regression is relevant to you?
   b. If the relevant β were 0.83, how many contracts do you buy? sell?

3. A German exporter wants to hedge an outflow of NZD 1m. She decides to hedge the risk with a EUR/USD contract and a EUR/AUD contract. The regression output is, with t-statistics in parentheses, and R2 = 0.59:

$$\Delta S[EUR/NZD] = a + \underset{(1.57)}{0.15}\ \Delta f[EUR/USD] + \underset{(17.2)}{0.7}\ \Delta f[EUR/AUD]$$

   a. How will you hedge if you use both contracts, and if a USD contract is for USD 50,000 and the AUD contract for AUD 75,000?
   b. Should you use the USD contract, in view of the low t-statistic? Or should you only use the AUD contract?