Mid-Term Exam: Practice Set without Solutions

What to do this practice exam.

Students had 75 minutes to answer questions 1 to 6. There was 1 optional bonus in one of the question (5 points). When asked to "argue briefly", answers were expected to take no more than 10 lines but in no fewer than 3.

Students were not allowed to collaborate with any other person while taking the exam. It was closed book, but each student was allowed to bring in a calculator and one A4 sheet. One side of the sheet could contain anything the student wished, but had to be handwritten by him/her (no photocopying).

Good luck in prepping for your own MT!
**Question 1. (5 points)**

a. (2 points) Suppose that, today, the Canadian dollar is quoted in European terms at 1.2500 against the US dollar. What would be the rate of the Canadian dollar against the US dollar in American terms (give 4 decimals)?

b. (2 points) Suppose that, at the same time, the Swiss Franc is quoted (also in European terms) at 1.1625 against the US dollar. What is the (implied) cross rate of the Swiss Franc against the Canadian dollar (give 4 decimals)?

c. (1 points) The Japanese Yen is trading at 97.9595-05 against the US dollar. What is the mid-point (give 4 decimals)?
Question 2. (5 points)

We are in 2006. Suppose that the 1-year interest rate in the U.K. is 4.2%, whereas the equivalent interest rate in Sweden is 2.9%. According to the Economist Intelligence Unit, the expected inflation rate in both countries is about 2% for the coming year. Should the Swedish currency (SKr) trade at a 1-year forward discount or premium against the pound sterling (£)? What should be the approximate percentage magnitude of this discount or premium? Explain intuitively.

(Hint: do you need all the information provided?)
Question 3. (15 points)

You are given the following FX rates: Canadian dollar in Toronto: 1.0000-04 CAD / 1USD
Yen in New York: 0.008333-50 USD / 1JPY

a. (7.5 points) As a banker in Tokyo, you would like to quote a cross-rate for the Canadian dollar (CAD) against the Yen (e.g., #JPY/1CAD). If you were the sole banker in the world quoting this cross-rate, what would your quote be? Explain and show your work.

(Hint: if you are the sole banker quoting cross-rates, you have no competition on that market and you can set your bid-asked spread to maximize your profit. Your constraint, however, is that you must still entice customers to trade with you, i.e., you must be so expensive that they prefer using the vehicle currency).

b. (7.5 points) Suppose that one of your competitors in Toronto quotes the following: 120.00-10 ¥ per Canadian dollar. Assume that you can trade with him up to a maximum of USD 10,000,000. Could you take advantage of that competitor? If not, explain why not. If so, how much money would you make – and would there be any risk in the proposed arbitrage? Explain and show your work.
Question 3. (additional space)
**Question 4. (10 points + 5 bonus points)**

(Hint: this question is more difficult than the others)

You are a trader for Barclays. You observe the following spot exchange rates:

- **CHF/EUR**: 1.5095-02 SF / €1
- **JPY/EUR**: 125.50-60 ¥ / €1

a. *(1 point)* What is the asked price of the Euro against the Swiss Franc (number of SF / €1)?

b. *(9 points + 5 bonus points)* At the same time, a bank in Bern is quoting the following 90-day forward cross rate:

   - **83.05-50 ¥/ 1SF**

Suppose the annualized 3-month (90-day) interbank interest rates available to Barclays’ trader are:

- for SF deposits / loans: 3%-3.125 %
- for € deposits / loans: 3%-3.125 %
- for ¥ deposits / loans: 1.06125%-1.125%

Can the trader make money out of those various rates? Explain intuitively whether there is an obvious arbitrage opportunity *(4 points)* and then show formally whether you can (or cannot) make money *(5 points + 5 bonus points)*.
Question 4. (additional space)
Question 5. (5 points)

a. In a freely-floating exchange rate system, if a country is running a current account deficit, what are the consequences for the nation's balance on capital account?

b. Can a country be running both current and capital account surpluses at the same time? Explain briefly.
Question 6. (5 points)

In 2002, the U.S. government significantly decreased personal taxes on dividend income. What would you expect to have been the consequences of this tax cut on the U.S. current account balance? Explain briefly.