

Topic 1: Exchange Rate Conventions

(Reading: Eun & Resnick Chapter 5)

Please note the following:

- a. I have set more questions than can be covered in a 2-hour session. Questions covered in the tutorials are indicated by an asterisk (*). The questions *without* a * (in the file that *only* contains questions) should be viewed as *extra* practice problems – we get requests for extra problems, and these are in response to those requests.

To reiterate, questions without an asterisk (*) is for you to do as practice problems.

- b. Tutorial Solutions will be posted at the end of the week.
- c. Certain European currencies such as the French Franc (FRF), Deutsche Mark (DEM), Italian Lira (ITL), Belgian Franc (BEF) etc. were replaced by the Euro. While some of this week's tutorial questions use these currencies, you need to be aware that the conventions used in the FOREX market are not contingent on what a currency is called.

1. The \$:DEM exchange rate is $\text{DEM1} = \$0.35$, and the DEM: FRF exchange rate is $1 \text{ FRF} = \text{DEM } 0.31$. What is the FRF:\$ exchange rate? (*)
2. A bank is quoting the following exchange rates with respect to the USD. DEM 2.3697-2.3725/USD and USD 1.5525-35/GBP. What DEM/GBP would the bank quote if asked? (*)
3. A bank is currently quoting spot rates of DEM 4.2446-4.2456/USD and BEF 65.30-65.40/USD. What rate would the bank quote for the BEF/DEM exchange rate?
4. You are given the following foreign exchange quotations by a bank: (*)

	Yen = 1AUD	GBP = 1 AUD	USD = 1 AUD
Spot	113.33/14.22	0.4876/85	0.6870/79
3 month	106.22/09.02	0.4454/89	0.6770/84
6 month	102.45/04.11	0.4211/95	0.6612/76

- (a) How many Yen could 1 million GBP buy, spot?
- (b) At what rate would the customer buy Yen 3 months forward?
- (c) At what rate would a client buy GBP for USD, 3 months forward?
- (d) At what rate would the customer buy Yen and sell pounds, spot?
- (e) How many USD could 10 million Yen buy, six months forward?
- (f) At what rate could a client buy Yen for GBP, six months forward?

5. As a foreign exchange trader for Mitsubishi Bank, one of your customers would like a spot yen (¥) quote on Australian dollars. Current market rates are:

Yen 101.37 – 85/USD

AUD 1.2924 – 44/USD

What bid and ask rates would you quote for the Yen/AUD exchange rate?

NB: JPY is the currency code for the Japanese Yen (¥).

6. Given the following information, what are the NZD/SGD currency against bid-ask quotations.

	American terms			European terms	
	Bid	Ask		Bid	Ask
USD/NZD	0.4660	0.4667	NZD/USD	2.1427	2.1459
USD/SGD	0.5705	0.5710	SGD/USD	1.7513	1.7528

NB: NZD (SGD) is the currency code for the New Zealand (Singapore) dollar.

7. The Euro quote is Euro 1.0242/\$1 (from Dresdner Bank) and the CHF 1.5030/\$ (from Credit Suisse). UBS is quoting Euro/CHF at 0.6750/CHF. Show how you can make a triangular arbitrage by trading at these prices. Assume that you have \$5,000,000 with which to conduct the arbitrage. What happens if you initially sell \$ for CHF? What Euro/CHF price will eliminate triangular arbitrage? (*)

NB: CHF is the currency code for the Swiss Franc

8. The following exchange rates are available to you. (You can buy or sell at the stated rates.)

Mt. Fuji Bank	¥120.00/\$
Mt. Rushmore Bank	CHF1.6000/\$
Matterhorn Bank	¥80.00/CHF

Assume you have an initial CHF10,000,000. Can you make a profit via triangular arbitrage? If so, show steps and calculate the amount of profit in Swiss francs.

Past exam question (*)

9. Triangular Arbitrage Question from Lecture Slide #20 (*)
10. Restate the following one-, three-, and six-month outright forward European term bid-ask quotes in forward points.

Spot	1.3431-1.3436
One-month	1.3432-1.3442
Three-month	1.3448-1.3463
Six-month	1.3488-1.3508

11. Compute the implied forward rate if a dealer was quoting the USD against the AUD at 0.7580/90 with 30 day forward margins of 40/30 points. (*)