



**ISSUES IN
INTERNATIONAL
FINANCE
EXERCISES**

AUTUMN 2018

ERASMUS+

2014 - 2020 programme for Education,
Training, Youth, and Sport



SESSION 1: THE FX MARKET, SPECULATION & ARBITRAGE

1. Identifying bid and offer quotes

Consider the table below, given by a bank to a client. For each of the questions the required rate is against the home (fixed) currency, which is the pound sterling (£).

Spot	US \$ 1.6325-35	Swiss francs 3.30 - 3.30 ³ / ₄	Japanese yen 263.15-25
	<i>Premium</i>	<i>Premium</i>	<i>Discount</i>
1 month forward	0.75 - 0.73 cents	⁵ / ₈ - ¹ / ₂ cents	10 - 15 cents
2 months forward	1.35 - 1.32 cents	1 ¹ / ₈ - 1 cents	12 - 21 cents
3 months forward	2.03 - 2.00 cents	1 ⁵ / ₈ - 1 ¹ / ₂ cents	16 - 29 cents

The word 'premium' or 'discount' implies that the foreign currency quoted at the head of each column is at a premium or discount respectively. One cent = 0.01 of the currency unit (US \$, Swiss Francs or Japanese yen).

REQUIRED:

1. At what rate will the bank buy spot dollars?
2. At what rate will the customer buy Japanese yen three months forward?
3. At what rate will the customer sell dollars one month forward?
4. At what rate will the bank sell spot Japanese yen?
5. At what rate will the customer buy Swiss Francs spot?
6. At what rate will the bank buy Japanese yen two months forward?
7. At what rate will the customer buy dollars two months forward?
8. At what rate will the bank sell dollars two months forward?
9. At what rate will the bank buy Swiss Francs three months forward?
10. At what rate will the customer sell Japanese Yen one month forward?

For questions 11-12, calculate the annual forward premium/discount and state which currency is at a premium.

11. Home currency versus dollars 1 month. Assume you are a buyer of dollars.
12. Home currency versus dollars 3 months. Assume you are a buyer of home currency.

2. Currency Speculation

Blue Demon Bank expects that the Chinese currency (the renminbi) will depreciate against the dollar from its spot rate of \$0.15 to \$0.14 in 10 days. The following interbank lending and borrowing rates exist:

	Lending rate	Borrowing rate
US dollar	8.0%	8.3%
Chinese renminbi	8.5%	8.7%

Assume that Blue Demon Bank has a borrowing capacity of either \$10 million or 70 million renminbi in the interbank market, depending on which currency it wants to borrow.

REQUIRED:

- How could Blue Demon Bank attempt to capitalize on its expectations without using deposited funds? Estimate the profits that could be generated from this strategy.
- Assume all the preceding information with this exception: Blue Demon Bank expects the renminbi to appreciate from its present spot rate of \$0.15 to \$0.17 in 30 days. How could it attempt to capitalize on its expectations without using deposited funds? Estimate the profits that could be generated from this strategy.

3. Bilateral currency arbitrage

Assume the following prices for the US dollar quoted against the New Zealand dollar:

	Bank X	Bank Y
Bid price of New Zealand dollar	\$0.401	\$0.398
Ask price of New Zealand dollar	\$0.404	\$0.400

Given this information, is locational arbitrage possible? If so, explain the steps that would reflect locational arbitrage and compute the profit from this arbitrage if you had \$1,000,000 to use. What market forces would occur to eliminate any further possibilities of locational arbitrage?

SESSION 2: PARITY CONDITIONS & ARBITRAGE

1. Absolute and relative PPP

Pinot Noir wine is produced in the states of California (US) and New South Wales (Australia). Equivalent bottles of Pinot Noir sell in the United States for US\$22 and in Australia for A\$34.

REQUIRED:

- (a) According to the theory of purchasing power parity, what should be the US dollar/Australian dollar spot rate of exchange?
- (b) Suppose the price of Pinot Noir is expected to rise to \$27 over the next year, while the price of a comparable bottle of Australian wine is expected to rise to A\$44. What should be the spot US dollar/Australian dollar exchange rate one year from now?

2. Covered Interest Arbitrage

Henri Jacque, an arbitrageur with Bank of Montreal, faces the following Canadian dollar/US dollar quotes:

Spot rate	C\$1.4900/\$
Six-month forward rate	C\$1.5100/\$
Six-month Canadian dollar interest rate (borrowing or investing)	7.50% p.a.
Six-month US dollar interest rate (borrowing or investing)	5.00% p.a.

Henri Jacque is authorized to borrow C\$20,000,000 or its US dollar equivalent. The ending profit, if any, should be realized in Canadian dollars. How can he complete covered interest arbitrage? What will be his profit?

3. London and New York

Money and foreign exchange markets in London and New York are very efficient. You have the following information:

	<u>London</u>	<u>New York</u>
Spot exchange rate	\$1.6000/£	£0.6250/\$
One-year treasury bill rate	5.00%	6.00%
Expected inflation rate	2.00%	Unknown

REQUIRED:

Assuming parity conditions hold:

- (a) Estimate inflation in the United States next year.
- (b) Estimate today's one-year forward exchange rate between pounds and dollars.

4. Covered foreign investment opportunity

A UK company has excess cash of £1 million for a period of 3 months. A proposition is put that it should be invested in South Korean won due to the high South Korean interest rate.

When the decision was made FX rates and interest rates are as follows:

<i>Won/£ spot</i>	$2507\frac{1}{2}$	-	$2508\frac{1}{2}$
<i>Won/£ 3-month forward</i>	9	-	13
<i>Sterling 3-month interest</i>	$12\frac{3}{8}$	-	$12\frac{1}{2}$
<i>Won 3-month interest</i>	$13\frac{3}{4}$	-	$14\frac{1}{4}$

Note: the South Korean won is the variable currency in the above quotes. Interest rates are quoted on an annualized basis.

SESSION 3: FX EXPOSURE & MANAGEMENT

1. Economic exposure

The Walt Disney Company built an amusement park in France that opened in 1992. How do you think this project, EuroDisney, affected Disney's overall economic exposure? Explain.

2. Hedging a payable

Assume the following information:

90-day US interest rate = 16% (annualized)
90-day Malaysian interest rate = 12% (annualized)
90-day forward rate of Malaysian ringgit = \$.400
Spot rate of Malaysian ringgit = \$.404

Assume that the Santa Barbara Company from the US will need 300,000 ringgit in 90 days. It wishes to hedge this payables position. Would it be better off using forward hedge or money market hedge? Substantiate your answer with estimated costs for each type of hedge.

3. Hedging a receivable

Assume the following information:

180-day U.S. interest rate = 16% (annualized)
180-day British interest rate = 18% (annualized)
180-day forward rate of British pound = \$1.50
Spot rate of British pound = \$1.48

Assume that Riverside Corporation from the US will receive 400,000 pounds in 180 days. Would it be better off using a forward hedge or a money market hedge? Substantiate your answer with estimated revenue for each type of hedge.

4. Economic exposure

Baltimore Inc. is a US-based MNC that obtains 10 percent of its supplies from European manufacturers. Sixty percent of its revenues are due to exports in Europe, where its product is invoiced in euros. Explain how Baltimore Inc. could attempt to reduce its economic exposure to exchange rate fluctuations in the euro.