McGill University
Faculty of Management
International Business (MGCR 382)
Winter 2016

ASSIGNMENT

SUGGESTED SOLUTIONS

REMARKS:

- This is a group assignment with a maximum of 6 students per group.
- The problems are to be answered in the space provided for them on this booklet.
- Clearly show your working and **encircle the final answer**.
- This assignment is due at the start of class on Monday **Feb 15, 2016**.

Member 1 Name : _____

Student no.: _____ **Sec**: _____

Member 2 Name : _____

Student no.: _____ **Sec**: _____

Member 3 Name : _____

Student no.: _____ **Sec**: _____

Member 4 Name : _____

Student no.: _____ **Sec**: _____

Member 5 Name : _____

Student no.: _____ **Sec**: _____

Member 6 Name : _____

Student no.: _____ **Sec**: _____

$\frac{MOP}{\$}$ 4

PROBLEM 1 (10 POINTS)

Let the current MOP exchange rate be 4 MOP/US$.

(a) A forecaster predicts a 37.5% MOP depreciation. What value of the exchange rate is she predicting? **(4 POINTS)**

$\frac{\$}{MOP} = 0.25$

$\frac{y-0.25}{0.25} = -0.375 \Rightarrow y = 0.1563 \frac{\$}{MOP}$

$= \frac{MOP}{\$}\ 6.4$

(b) Another forecaster predicts a 60% US$ appreciation. What value of the exchange rate is he predicting? **(4 POINTS)**

$\frac{X-4}{4} = +0.6 \Rightarrow X = 6.4\ \frac{MOP}{\$}$

(c) Do the two forecasters in (a) and (b) agree or disagree with each other? Explain. **(2 POINTS)**

Agree! Predicted exchange rate values are same

DC = $ ¥/$ 90

C$/$ 1.40

PROBLEM 2 (8 POINTS)

Suppose the Japanese Yen is currently traded at Yen 90/$. The Canadian Dollar is traded at C$ 1.40/$.

(a) Determine the implied Yen/C$ cross rate. **(1 POINT)**

$$\frac{¥}{C\$} = \frac{¥}{\$} \times \frac{\$}{C\$} = 90 \times \frac{1}{1.4} = \frac{¥}{C\$}\ 64.2857$$

(b) Suppose the Yen/C$ was at Yen 66/C$. Is there any arbitrage opportunity? **(1 POINT)**

Mkt $\stackrel{?}{=}$ Implied

¥/C$ 66 (SELL) $\neq$ ¥/C$ 64.2857 (BUY) $\Rightarrow$ Arbitrage opp^{n} exists

(c) How would you take advantage of any arbitrage situation? **(2 POINTS)**

sell ¥/C$ $\Rightarrow$ sell C$ buy ¥

sell $ buy C$

sell C$ buy ¥

sell ¥ buy $

(d) What is your profit? **(4 POINTS)**

$\Pi = 2.167\%$

$1 = $1.02667

¥92.4 × $/¥ 1/90

sell $ buy C$

$1 × C$/$ 1.140

= C$1.140

sell C$ buy ¥ @ mkt

sell ¥ buy $

= ¥92.4

C$ 1.140 × ¥/C$ 66

$\frac{C\$}{€}$ 0.158 – 0.160

$\frac{€}{C\$}$ 1.6667 – 1.7241

PROBLEM 3 (2 POINTS EACH, TOTAL 12 POINTS)

Your bank offers you the following quotes:

C$/€	0.58-0.60
C$/£	1.48-1.51

a) How many Canadian dollars will you need to buy €100?

€100 × $\frac{C\$}{€}$ 0.160 = **C$60**

$\frac{C\$}{£}$ 1.148 – 1.151

$\frac{£}{C\$}$ 0.6623 – 0.6757

b) How many pounds will you need to buy C$100?

C$100 × $\frac{£}{C\$}$ 0.6757 = **£67.57**

c) How many euros will you receive if you sell C$200?

C$200 × $\frac{€}{C\$}$ 1.6667 = **€333.33**

d) How many pounds will you receive if you sell C$275?

C$275 × $\frac{£}{C\$}$ 0.6623 = **£182.12**

e) How many Canadian dollars will you need to buy £125?

£125 × $\frac{C\$}{£}$ 1.51 = **C$188.75**

f) How many euros will you need to buy C$300?

C$300 × $\frac{€}{C\$}$ 1.7241 = **€517.24**

$\frac{€}{£} = \frac{DC}{FC}$

PROBLEM 4 (15 POINTS)

Assume that you can trade at the following prices:

Spot rate	$= S$	€1.4987/£
One-year forward exchange rate	$= F$	€1.4876/£
One-year pounds sterling interest rate	$= R_£^*$	3.55%
One-year euro interest rate	$= R_€$	4.10%

Is covered interest arbitrage worthwhile? If so, explain the steps in words and compute the profit.

$$\frac{F}{S} \stackrel{?}{=} \frac{1+R}{1+R^*}$$

$$\Rightarrow \frac{1.4876}{1.4987} \stackrel{?}{=} \frac{1.0410}{1.0355}$$

$$\underbrace{0.99259}_{\text{BUY}} \stackrel{?}{=} \underbrace{1.005311}_{\text{SELL}}$$

Buy $\frac{F}{S}$ $\Rightarrow$ buy F $\Rightarrow$ buy £ fwd

Borrow £ @ $R_£^*$

Convert £ to € @ S

Invest € @ $R_€$

Convert € to £ @ F

Repay loan

(1)

PROBLEM 4 CONTINUED
Use this space to continue working on Problem 4

Borrow £1 ——— Need to repay £1 $(1.0355)^1$ = £1.0355

Profit = 1.33%

sell £
buy €
@ S

= £ 1.04877

€ 1.56015 × £/€ 1/1.4876

sell €
buy £

£1 × € 1.4987 / £

= € 1.56015

= € 1.4987 ——— Invest @ $R_€$ ——— € $1.4987(1.0410)^1$