

THE HONG KONG POLYTECHNIC UNIVERSITY
HONG KONG COMMUNITY COLLEGE

Subject Title : International Finance

Subject Code : CCN2122

Session : Semester One, 2018/19

Numerical Answers

Question B1

- (a) The strategy: convert USD -> C\$ -> euro -> USD

First, converts USD\$1,000 to C\$ by using the ask rate \$0.76

$$\frac{\$1,000}{\$0.76} = \text{C\$}1,315.790$$

Then, converts C\$1,315.790 to by using the ask rate C\$1.560

$$\frac{\text{C\$}1,315.790}{\text{C\$}1.560} = \text{€}843.455$$

In last converts €843.455 back to USD by using the bid rate \$1.218

$$\text{€}843.455 \times \$1.218 = \$1,027.328$$

You have profit of \$1,027.328 - \$1,000 = **\$27.33**

Question B2

(a)
$$p = \frac{1 + 1\%}{1 + 5\%} - 1 = -3.81\%$$

The forward rate should be:

$$\$0.68 \times (1 - 3.81\%) = \$0.6541$$

- (e) 1. Convert dollars to Canadian dollars $\$1,000,000 / \$0.68 = \text{C\$}1,470,588.24$
2. Invest C\$ for 3-month and receive $\text{C\$}1,470,588.24 \times 1.05 = \text{C\$}1,544,117.65$
3. Convert pounds back to USD and receive $\text{C\$}1,544,117.65 \times \$0.6 = \$926,470.59$
The percentage return is $\$926,470.59 / \$1,000,000 - 1 = -7.35\%$

Question B3

- (c) Buy 500,000 call options.
Payout = $(\$1.8 - \$1.3) \times 500,000 = \$250,000$

(d)(i) max. profit: unlimited; max loss: \$0.25

(d)(ii) max. profit: \$1.25; max loss: \$0.15

Question B4

(a)(i) AmberMan will sell forward at \$1.35
She will receive $\$1.35 \times 5,000,000 = \$6,750,000$

(a)(ii) Money market hedge:

1. Borrow $\pounds 5,000,000 / 1.06 = \pounds 4,716,981.13$
2. Convert $\pounds 4,716,981.13$ into $\$6,603,773.59$ (at \$1.4)
3. Invest $\$6,603,773.59$ at 7% to earn $\$7,066,037.74$ at the end of the year.

(c)

Possible Spot Rate	Total Amount Received for $\pounds 5,000,000$	Probability
\$1.20	\$6,000,000	20%
\$1.50	\$7,500,000	50%
\$1.60	\$8,000,000	30%
Expected Value	\$7,350,000	

Question B5

(a)

	Bid	Ask
C\$ in \$	\$0.751	\$0.755
euro in \$	\$1.198	\$1.212

(c) Cross-rate last year:
 $1.6 / 0.0087 = \text{JPD } 183.908 / \text{pound}$

Cross-rate in now:
 $1.5 / 0.008 = \text{JPD } 187.500 / \text{pound}$

Percentage change = $(187.5 - 183.908) / 183.908 = 1.95\%$

(d) The amount you needed: $500,000 \text{ pounds} \times \text{JPD } 187.5 / \text{pound} = \text{JPD } 93,750,000$