

FOREX CLASS 4

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Cross Rate

Pick up:

$$\begin{aligned} \text{If } 1 \text{ £} &= \$1.50 \\ \text{and } 1 \$ &= ₹80 \end{aligned}$$

$\frac{\$}{\text{£}}$ } Implied or Synthetic rate
 $\frac{₹}{\$}$

$$\therefore 1 \text{ £} = ₹120 (80 \times 1.5)$$

not quoted by bank. We have inferred.

This is known as Implied or Synthetic Cross rate.

Given A/B
and B/C

Implied A/C → Cross Rate → This is required for illegal currency
yaani common currency jo "B" hai use katna hai

$$A/B \times B/C = A/C$$

$$\begin{aligned} \frac{\$}{\text{£}} \times \frac{₹}{\$} &= \frac{₹}{\text{£}} \\ 1.5 \times 80 &= 120 \end{aligned}$$

If A/B is given and C/B is given :-

$$\begin{aligned} \frac{A/B}{C/B} &= \frac{C/B}{A/B} \\ &= A/C \\ &= C/A. \end{aligned}$$

$$\frac{A/B}{A/C} \quad \checkmark$$

$$= \frac{1/B}{1/C} = C/B$$

• Practise w/o bid/ask :-

Ex: $\frac{\$/\text{₹}}{\text{₹}/\text{₹}} \quad \begin{matrix} 1.7250 \\ 1.4390 \end{matrix}$

calculate $\$/\text{₹} = \frac{1.7250}{1.4390} = 1.1987$

Ex: $\frac{\$/\text{CHF}}{\$/\text{₹}} \quad \begin{matrix} 2.6040 \\ 1.4390 \end{matrix} \quad \frac{1/\text{CHF}}{\text{₹}}$

calculate $\text{CHF}/\text{₹} = \frac{1.4390}{2.6040}$

$$= 0.5526$$

Q3. $\frac{\text{USD}/\text{NZD}}{\text{NZD}/\text{SEK}} \quad \begin{matrix} 0.3500 \\ 0.3100 \end{matrix}$

∴ $\text{USD}/\text{SEK} = 0.3500 \times 0.3100$
 $= 0.1085$

Q4. $\frac{\text{GBP}/\text{USD}}{\text{MXN}/\text{USD}} \quad \begin{matrix} 2.0000 \\ 8 \end{matrix}$

∴ $\text{GBP}/\text{MXN} = \frac{8}{2} = 4 \text{ (₹)}$

USD

$$Q5. \quad GBP/USD = 0.7775$$

$$CAD/GBP = 1.8325$$

calculate USD/CAD

$$\therefore USD/CAD = CAD/USD = 0.7775 \times 1.8325 = 1.4248$$

$$\therefore USD/CAD = \frac{1}{1.4248}$$

$$= 0.70186 (a)$$

$$Q6. \quad \begin{array}{l} \overset{CAD}{USD/CAD} \quad 0.9250 \\ \overset{CHF}{USD/CHF} \quad 1.6250 \end{array}$$

$$\therefore CAD/CHF = \frac{1.6250}{0.9250} = 1.7568 (b)$$

$$Q7. \quad \begin{array}{l} \overset{USD}{JPY/USD} \quad 115.2200 \\ JPY/DKK \quad 16.4989 \end{array}$$

$$\therefore USD/DKK = \frac{16.4989}{115.22} = 0.1432 (c)$$

Q8. Cross Rate with bid/Ask

$$\begin{array}{l} A/B \longrightarrow I/II \\ B/C \longrightarrow III/IV \end{array}$$

Calculate Implied A/C

Tone

$$\longrightarrow \frac{I \times III}{II \times IV} \quad \text{bid} \times \text{bid} / \text{Ask} \times \text{Ask}$$

Seedha
Chakra haimultiply
me.

Ex: Bank A (Mumbai)
₹/\$

84.20 / 84.90

Bank B (New York)
\$/₹

1.6350 / 1.6410

Implied $\frac{₹}{\$} = \frac{84.20 \times 1.6350}{84.90 \times 1.6410}$
 $= \frac{137.67}{139.32}$

Explanation conceptual?



Step 1: Buy 1₹ from NY @ 1.6410

Step 2: Buy \$1.6410 from Mumbai @ 84.90

∴ ₹ required to buy 1₹ = 1.6410×84.90
 $= 139.32$

Given A/B
₹/₹

(I)/(II)
(III)/(IV)

chotawala ko sabse
balawala ko kharid
karna
me teercha chalna hai

Calculate Implied $A/C = \frac{(I)}{(IV)} / \frac{(II)}{(III)}$

Time → $\frac{\text{Bid}}{\text{Ask}} / \frac{\text{Ask}}{\text{Bid}}$

Ex: London
\$/₹

1.4790 / 1.4860

Paris
€/₹

1.3720 / 1.3850

Calculate Implied $\$/€ = \frac{1.4790}{1.3850} / \frac{1.4860}{1.3720}$

$= 1.0679 / 1.0831$

$$\begin{array}{l} \text{Q8.} \\ \text{₹/₹} \quad 76.20 / 77.10 \\ \text{\$/₹} \quad 1.2620 / 1.2750 \end{array}$$

$$\begin{aligned} \text{Calculate } ₹/₹ &= 76.20 \times 1.2620 / 77.10 \times 1.2750 \\ &= 96.1644 / 98.3025 \end{aligned}$$

$$\begin{array}{l} \text{Q9.} \\ \text{₹/₹} \quad 82.30 / 83.40 \\ \text{¥/₹} \quad 128.90 / 129.50 \end{array}$$

$$\text{₹/¥} = \frac{82.30}{129.50} / \frac{83.40}{128.90}$$

$$= 0.6355 / 0.6470$$

buy ∴ ₹ sell

Exam cum

Q10. XYZ wants to put ₹25m against ₹. ∴ ₹/₹ - bid.

Ignore
loss/losses
costs in
₹25m
sum

$$\begin{array}{l} \text{₹/₹} = 61.3625 / 61.3700 \\ \text{\$/₹} = 1.5260 / 1.5270 \end{array}$$

$$\therefore ₹/₹ = 61.3625 \times 1.5260$$

$$= 93.6392$$

$$\therefore 250,00,000$$

$$93.6392$$

$$= ₹266982.20$$

$$= ₹267000 \text{ (a)}$$

Q11. ABC bank wants to put €40m against ¥ - buy

$$\text{€/USD} = 0.8950 / 0.8965$$

$$\text{USD/JPY} = 0.00905 / 0.00910$$

$$\therefore \text{€/¥} = 0.8950 \times 0.00905$$

$$= 0.0081$$

€/₹

₹/₹

€/₹ - sell.

$$\therefore 40M = \frac{4938424.025}{0.00809975}$$

Applicative Sums on Cross Rate

- Type I - cover rate $\rightarrow$ simple sum
- Type II - cover rate $\rightarrow$ higher level sum
- Type III - cover rate $\rightarrow$ Ambiguous sum
- Type IV - Delay on LC
- Cover rate $\rightarrow$ Think of short sale

↓

Dealer ... yaani bank

Ek ulta pulka currency

Ek customer ko chep dia (bech dia)

2 baad mein foreign market & Indian market ke quotation ko use karke ... wo us currency ko buy karega ... yaani cover karega ... what's the cover rate?

2 calculate Profit/Loss to the dealer.

- Cover rate $\rightarrow$ Simple sum

Q12. Eng bank sold 10Cr HK\$ Spot @ 9.702 $\rightarrow$ 2/HK\$.

$$\text{HK\$ / US\$} = 7.7506 / 7.7546$$

$$2 / \text{US\$} = 74.70 / 74.85$$

calculate cover rate?

$$\therefore \text{Implied } 2 / \text{HK\$} = 74.70$$

$$= 9.6329 / 74.85$$

$$= 9.6513$$

$$\therefore \text{Profit} = (9.70 - 9.6513) \times 10Cr = 4870000$$

is the cover rate

Descriptive

English Bank sold HK\$ 10 cr @ 9.70

Now it has to cover itself by buying HK\$ against £.

$$\begin{array}{l} \text{Given: } \text{£/US\$} \quad 74.70 / 74.85 \\ \text{HK\$ / US\$} \quad 7.7506 / 7.7546 \end{array}$$

$$\therefore \text{Implied } (\text{£/HK\$}) \text{ ask rate} = \frac{74.85}{7.7506}$$

$$= 9.6573$$

cover rate

$$\therefore \text{Profit} = (9.7 - 9.6573) \times 10 \text{ cr} \\ = \text{£ } 42,70,000$$

Q13. You sold HK\$ 1 cr @ £5.70.

$$\text{HK\$ / US\$} = 7.5880 / 7.5920$$

$$\text{£ / US\$} = 42.70 / 42.85$$

$$\therefore \text{£ / HK\$} = \frac{42.70}{7.5920} = 5.67$$

$$= \frac{42.85}{7.5880} = 5.6470$$

$$\therefore \text{Profit} = (5.7 - 5.6470) \times 1 \text{ cr} \\ = \text{£ } 529,000$$