

FOREX

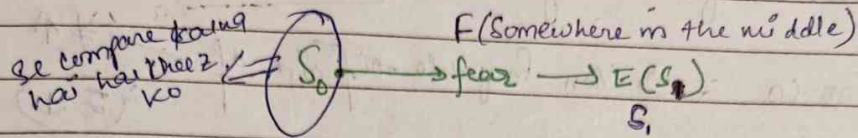
CLASS-8 PART-II

Page No. 85

Date 04, 02, 25

Ans 2nd

- Type III Sums : Typical Traditional sum on Forward Hedging



- 1 Expected loss if we don't hedge? [Compare $E(S_1)$ with S_0]
- 2 loss if we go for forward cover? [Compare F with S_0] ... This loss will be less than Step 1
- 3 Export [Actual Spot rate on maturity $\rightarrow S_1$]
 π or loss by comparing S_1 with S_0 and
 Compare this loss with Step 2 to conclude whether forward Hedge was justified.

US firm $S_0 = \text{¥} 142/\$$ Export $\text{\$} 50,000$ 6M Japanese Firm
 $\downarrow$
 It is facing transaction exposure
 $\downarrow$
 Sum has to be done from Japanese firm's point of view

Exchange rate is expected to depreciate by 10%.

$\rightarrow$ and exchange rate is not directly given

Means Invoice $\text{\$} 50,000$

$\text{\$}$ equivalent at $S_0 = \text{¥} 72,00,000$

Japanese firm fear

$\text{\$} \pi$

$\text{¥} \downarrow$

$\text{¥} 144/\text{\$}$

or

$\text{\$} 0.00694/\text{¥}$

Q1 Self Note : Since Invoice amount is in Yen, transaction exposure is faced by the Indian firm.

Indian Co $\rightarrow$ Yen Payable afraid of $\begin{matrix} \text{¥} \uparrow \\ \text{₹} \downarrow \end{matrix}$
 $\downarrow$
 ₹ $\downarrow$ 8%

$$\therefore S_0 = \frac{216}{50} = \text{¥} 4.32 / \text{₹}$$

Ans $S_0 = 216/50 = \text{¥} 4.32 / \text{₹}$

$$E(S) = 4.32 \times 0.92$$

$$= 3.9744$$

$$F = 4.12$$

Step 1 : Do not hedge

Based on S_0 , ₹ outflow = ₹ 50 lakhs

Based on $E(S)$, ₹ outflow = $\frac{216}{3.9744} = \text{₹} 54,34,783$

$$\therefore \text{Expected loss} = 54,34,783 - 50,00,000$$

$$= \text{₹} 4,34,783$$

Step 2 : Forward Cover

Based on S_0 , ₹ outflow = ₹ 50 lakhs

Based on F , ₹ outflow = ₹ 52,42,718

$$\therefore \text{Expected loss} = \text{₹} 2,42,718$$

So, as a result of forward contract, loss is reduced by $(434,783 - 242,718)$ i.e. ₹192,065.

Exam 8.
Q2
Sum
+ Cross rate

$$S_0 = ₹/¥ \rightarrow \frac{62.22}{102.34} = 0.60798$$

$$E(S_1) = \frac{65}{124} = 0.52419$$

Self note: this sum needs to be done from Indian Co. point of view since Indian Co. is facing transaction exposure. Here in this sum, change rate of exposure is not given so we can take any currency as base rate. but we chose to take that currency as base currency which is payable/receivable given in the sum.

$$F = \frac{66.5}{110.35} = 0.60263$$

$$S_1 = \frac{66.25}{110.85} = 0.59765$$

i Indian Rupee $\rightarrow$ Yen receivable

Expected loss if hedging not done i.e. $(0.60798 - 0.52419) \times 10m$
 $= 283,790$ approx

Step II : Under forward cover, expected loss compared to S_0 = $(0.60798 - 0.60263) \times 10M$
 = ₹ 5350 approx only

So, account of forward cover, this loss is reduced by $(83790 - 5350)$ i.e. ₹ 78440.

ii) Given the Actual rate on maturity, loss compared to S_0 = $(0.6078 - 0.59765) \times 10M$
 = ₹ 10,330

But forward loss was less i.e. 5350, so gain due to forward cover i.e. $(10,330 - 5350)$ i.e. ₹ 4980.

The decision to take

Yes, forward cover was justified.

• Type 4 : Forward Hedging involving IRP [Interest rate parity]

This will be done later