FOREX CLASS 16

HOME WORK SUPPORT

COVERAGE

Question			Answer			Lecture Time
Q. No	Page no.	Book	Q. No	Page no.	Book	
Extra Q1	61	HW ANS BOOK	Extra Q1	61	HW ANS BOOK	00:00:29 TO 00:02:22
Extra Q2	61	HW ANS BOOK	Extra Q2	62	HW ANS BOOK	00:02:23 TO 00:04:34
Extra Q3	62	HW ANS BOOK	Extra Q3	63	HW ANS BOOK	00:04:35 TO 00:07:07
26	11	HW Q BOOK	26	18	HW ANS BOOK	00:07:08 TO 00:10:54
27	12	HW Q BOOK	27	19	HW ANS BOOK	00:10:55 TO 01:21:18

PART III: FX EXPOSURE AND HEDGING

EXTRA QUESTION

Topic 14 TRANSACTION EXPOSURE

Question: HW ANS BOOK PAGE 61

An Indian imported goods worth 40000 USD under a letter of credit arrangement, which calls for payment at the end of 60 days. The invoice is raised in dollars when the rate of exchange is 81.2 INR/USD. What will be the transaction gain or loss (in rupee terms) if the rupee:

a. Strengthen by 10%
b. Weaken by 5%

ANSWER: HW ANS BOOK PAGE 61

The Rupee strengthening by 10 percent means an exchange rate of 81.20 × 0.90 = 73.08 rupees to the dollar. The Rupee weakening by 5 percent means an exchange rate of 81.20 × 1.05 = 85.26 rupees to the dollar.

Rupee strengthens	Rupee weakens
Before: 40000 × 81.20= 32,48,000 INR	Before: 40000 × 81.20 = 32,48,000 INR
After: 40000 × 73.08 = 29,23,200 INR	After: 40000 × 85.26 = 34,10,400 INR
Transaction Gain = 3,24,800 INR	Transaction loss = 1,62,400 INR

PART III: FX EXPOSURE AND HEDGING

EXTRA QUESTION

Topic 14 TRANSACTION EXPOSURE

Question: HW ANS BOOK PAGE 61

Rajesh exported 300 pieces of a jewellery to London at 250 GBP each. To manufacture and design this jewellery he imported raw material from Singapore of the cost of SGD 180 for each piece.

The labor cost and variable overhead incurred in producing each piece of jewellery are INR 2,700 and INR 1100 respectively.

Suppose Spot Rates are:

INR/ GBP	INR 98.00 – INR 98.50
SGD/ GBP	SGD 1.58 – SGD 1.60

Rajesh is expecting that by the time the export remittance is received and payment of import is made the expected Spot Rates are likely to be as follows:

INR/GBP	INR 99.00 – INR 99.65
SGD/GBP	SGD 1.55- SGD 1.58

You are required to calculate the resultant transaction exposure

(Source: FOD)

ANSWER: HW ANS BOOK PAGE 62

Profit as per Spot Rates

	₹
Sales Revenue (300 X 250 X 98)	73,50,000
Less: Cost of Imported Raw Material (300 X 180 X 62.34)	33,66,360
Labour Cost (300 X 2700)	8,10,000
Variable Overheads (300 X 1100)	3,30,000
Profit	28,43,640

Profit as per expected Spot Rates

	₹
Sales Revenue (300 X 250 X 99)	74,25,000
Less: Cost of Imported Raw Material(300 X 180 X 64.29)	34,71,660
Labour Cost (300 X 2700)	8,10,000
Variable Overheads (300 X 1100)	3,30,000
Profit	28,13,340

Decrease in Profit due to Transaction Exposure = 28,43,640-28,13,340 = INR 30300

PART III: FX EXPOSURE AND HEDGING

EXTRA QUESTION

Topic 14 TRANSACTION EXPOSURE

Question: HW ANS BOOK PAGE 62

An Indian company operating out of Hyderabad exported 15000 units of food packing units to USA at a price of 400USD per unit. The Indian company imports 300AUD worth raw materials per unit from Australia. Variable cost of production is 8000 INR per unit where as fixed costs are 2 crores rupees. All the payments are to be received and done after 3 months.

The spot exchange rates are quoted as

INR/USD 82.00/82.40

INR/AUD 55.00/55.80

The estimated exchange rate after 3 months are

INR/USD 81.50/81.80

INR/AUD 55.80/56.50

You are required to find out:

a. The change in profitability due to transaction exposure for the contract entered into.
b. How many units should the company increases its sales in order to maintain the current profit level.

(Source: FOD)

ANSWER: HW ANS BOOK PAGE 63

a. Let us first calculate the Company's existing profits

	Rs.	**Rs.**
Sales – 15000×400×82		49,20,00,000
Variable Cost		
Imported Raw Material- 15000×300×55.80	25,11,00,000	
Manufacturing Cost- 15000×8000	12,00,00,000	
Fixed Cost	2,00,00,000	
		39,11,00,000
Profit		10,09,00,000

After the Rupee appreciation against USD and depreciation against AUD, the company's profitability will be

	Rs.	Rs.
Sales – 15000×400×81.50		48,90,00,000
Variable Cost		
Imported Raw Material- 15000×300×56.50	25,42,50,000	
Manufacturing Cost- 15000×8000	12,00,00,000	
Fixed Cost	2,00,00,000	
		39,42,50,000
Profit		9,47,50,000

Thus profit decreased by 10,09,00,000 – 9,47,50,000 = 61,50,000 rupees

b. Let the number of units that need to be sold for keeping the profits at pre appreciation level be X.

Then

Rs. 10,09,00,000 = [400×81.50×X] – [(8000 × X) + (300×56.50×X) + 2,00,00,000]

10,09,00,000 = [32600X – (8000X + 16950X + 2,00,00,000)]

10,09,00,000 + 2,00,00,000 = 7650X

X = 15,804 units

Thus, the company should increase its existing supply from 15000 to 15804 to maintain the current profit level of Rs. 10,09,00,000.

PART III: FX EXPOSURE AND HEDGING

Topic 14 TRANSACTION EXPOSURE

Question 26: (Modified) SSEI HW Book Page No. 11

Vinod Textiles exports leather jackets to France. For the month of March the company received in order to export 25000 pieces at a price of Euro 25 per piece. The average cost of producing each piece for the company is ₹ 1250.The sales proceeds are expected to be realized after 3 months. The price elasticity of demand for company's product in the French market is 1.50. Prevailing rupee-euro exchanges rate is 58 and the expected rupee-euro exchange rate is 60 after 3 months.

You are required to compute:

a. The change in profit due to transaction exposure.
b. The change in profit due to economic exposure, if the company passes on the benefit of depreciation to the buyer. Assume the spot rupee-euro rate changes to 59 before shipment.

(Source: FOD)

ANSWER:

a. Profit as per current exchange rate

Revenue = 25,000 × 25 × 58	3,62,50,000
Less: Cost of production = 25,000 × 1,250	3,12,50,000
Profit	50,00,000

Profit after expected spot rate after 3 months

Revenue = 25,000 × 25 × 60	3,75,00,000
Less: Cost of production = 25,000 × 1,250	3,12,50,000
Profit	62,50,000

∴ Change in profit due to transaction exposure = 62,50,000 - 50,00,000
= 12,50,000

b. The current exchange rate changed to 59 so we decided to pass on this benefit to the customer:

∴ New price = $25 \times \frac{58}{59} = 24.58$

i.e., Price decrease = $\frac{0.42}{25} \times 100 = 1.68\%$

$e_d = 1.50$

∴ Units will increase by 1.50 × 1.68 = 2.52%

New units = 25,000 × 1.0252 = 25,630 units

Profit based on old units, S_o*

Revenue 25,000 × 25 × 59	3,68,75,000
Less: Cost of Production 25,000 × 1250	3,12,50,000
	56,25,000

Profit based on new units & S_T

Revenue 25,630 × 24.58 × 60	3,77,99,124
Less: Cost of Production 25,630 × 1250	3,20,37,500
	57,61,624

Change in profit due to economic exposure = 57,61,624 – 56,25,000
= 1,36,624 rupees

PART III: FX EXPOSURE AND HEDGING

Topic 15 ECONOMIC EXPOSURE

Question 27: SSEI HW Book Page No. 12

M/s Omega Electronics Ltd. exports air conditioners to Germany by importing all the components from Singapore. The company is exporting 2,400 units at a price of Euro 500 per unit. The cost of imported components is S$ 800 per unit. The fixed cost and other variables cost per unit are ₹ 1,000 and ₹ 1,500 respectively. The cash flows in Foreign currencies are due in six months. The current exchange rates are as follows:

₹/Euro	51.50/55
₹/S$	27.20/25

After six months the exchange rates turn out as follows:

₹/Euro	52.00/05
₹/S$	27.70/75

a. You are required to calculate loss/gain due to transaction exposure.

b. Based on the following additional information calculate the loss/gain due to transaction and operating exposure if the contracted price of air conditioners is ₹ 25,000 :

   i. the current exchange rate changes to

₹/Euro	51.75/80
₹/S$	27.10/15

   ii. Price elasticity of demand is estimated to be 1.5

   iii. Payments and receipts are to be settled at the end of six months.

(Source: ICAI)

ANSWER:

i. Profit at current exchange rates

2400 [€ 500 × ₹ 51.50 – (S$ 800 × ₹ 27.25 + ₹ 1,000 + ₹ 1,500)]

2400 [₹ 25,750 - ₹ 24,300] = ₹ 34,80,000

Profit after change in exchange rates

2400[€500× ₹ 52 – (S$ 800 × ₹ 27.75 + ₹ 1000 + ₹ 1500)]

2400[₹ 26,000 - ₹ 24,700] = ₹ 31,20,000

LOSS DUE TO TRANSACTION EXPOSURE

₹ 34,80,000 – ₹ 31,20,000 = ₹ 3,60,000

ii. Profit based on new exchange rates

2400[₹ 25,000 - (800 × ₹ 27.15 + ₹ 1,000 + ₹ 1,500)]

2400[₹ 25,000 - ₹ 24,220] = ₹ 18,72,000

Profit after change in exchange rates at the end of six months

2400 [₹ 25,000 - (800 × ₹ 27.75 + ₹ 1,000 + ₹ 1,500)]

2400 [₹. 25,000 - ₹ 24,700] = ₹ 7,20,000

Decline in profit due to transaction exposure

₹ 18,72,000 - ₹ 7,20,000 = ₹ 11,52,000

Current price of each unit in € = $\frac{₹\ 25,000}{₹\ 51.50} = €\,485.44$

Price after change in Exch. Rate = $\frac{₹\ 25,000}{₹\ 51.75} = €\ 483.09$

Change in Price due to change in Exch. Rate

€ 485.44 - € 483.09 = € 2.35 or (-) 0.48%

Price elasticity of demand = 1.5

Increase in demand due to fall in price 0.48 × 1.5 = 0.72%

Size of increased order = 2400 ×1.0072 = 2417 units

Profit = 2417 [₹ 25,000 – (800 × ₹ 27.75 + ₹ 1,000 + ₹ 1,500)]

= 2417 [₹ 25,000 - ₹ 24,700] = ₹ 7,25,100

Therefore,

decrease in profit due to operating exposure ₹ 18,72,000 – ₹ 7,25,100 = ₹ 11,46,900

Alternatively, if it is assumed that Fixed Cost shall not be changed with change in units then answer will be as follows:

Fixed Cost = 2400[₹ 1,000] = ₹ 24,00,000

Profit = 2417 [₹ 25,000 – (800 × ₹ 27.75 + ₹ 1,500)] – ₹ 24,00,000

= 2417 (₹ 1,300) – ₹ 24,00,000 = ₹ 7,42,100

Therefore,

decrease in profit due to operating exposure ₹ 18,72,000 – ₹ 7,42,100 = ₹ 11,29,900