

So, there is an unanticipated appreciation of
 $\text{₹ } 0.05 / \$$ ($73.00 - 72.95$)

$$\text{Gain} = \$ 50000 \times \text{₹ } 0.05 / \$ = \text{₹ } 2500$$

Self practice :- Extra Q. 2] HW soln pg. 60

FX: L16 → Part 1

→ Sum on Transaction + Economic Exposure :-

Type 1: Foreign Currency Invoicing

Type 2: Home Currency Invoicing

Price elasticity of demand (ed) is important in both type of sum
 $ed = 1.5 \rightarrow$ If Price Δ by 1%, $Q_d \Delta$ by 1.5% in the
 opposite direction.

Type 1: FC Invoicing :-

Indian Co. 1000 units @ GBP 20/unit $\rightarrow$ UK
 $\xrightarrow{\text{export}}$
 1st Jan

$$\text{Cost of prodn} = \text{₹ } 800 \text{ p.u.}$$

So, GBP 20000 receivable, let's say after 6 months $\rightarrow$ TE

(i) $T=0$ | $T=6m$

$$S_0 = \text{₹ } 92.3 / \text{GBP}$$

$$E(\$T) = \text{₹ } 96.7 / \text{GBP}$$

$$\text{Profit} = 20000 \times 92.3 - 800 \times 1000$$

$$= 1046000$$

$$\text{Profit} = 20000 \times 96.7 - 800 \times 1000$$

$$= 1134000$$

$$\therefore \text{Gain due to Trn. Exposure (TE)} = 88000$$

(ii) Before shipment, exchange rate changes to $\text{₹ } 95 / \text{GBP}$ &
 Indian Co. decides to pass on the benefit to the
 importer by reducing the the price. If $ed = 1.5$, calculate
 G/L due to Economic Exposure (EE)

$T=0$ | $T=6m$

$$S_0 = 92.3$$

$$E(\$T) = 96.7$$

$$S_0^* = 95.0$$

$$\text{New price} = 20 \times 92.3 / 95 = 19.43$$

$$\% \downarrow \text{ in price} = \frac{20 - 19.43}{20} = 2.85\%$$

$$ed = 1.5$$

So, demand will $\uparrow$ by $2.85 \times 1.5 = 4.275\%$

$$\therefore Q = 1000 \times 1.0425 = 1042.5 \text{ i.e. } 1043 \text{ units}$$

$$\therefore \text{profit} = (1043 \times 19.43 \times 96.7) - (1043 \times 800) = 1125273$$

profit @ S_0^* at original units

$$= (1000 \times 20 \times 95) - (1000 \times 800) = 1100000$$

$$\therefore \text{change in profit due to EE} = ₹ 25273$$

Q.1	pg	E	(1) Profit as per the current exchange rate -		
QW. Soln.	70		Revenue	$(18000 \times 30 \times 82)$	44280000
			(-) cost of prodn	(18000×1800)	32400000
					<u>11880000</u>

• Profit as per expected spot rate after 3 months -

Revenue	$(18000 \times 30 \times 90)$	48600000
(-) cost of production	(18000×1800)	32400000
		<u>16200000</u>

$$\therefore \text{change in profit due to TE} = ₹ 4320000$$

$$(2) \text{ New price} = 30 \times \frac{82}{86.32} = 28.5 ₹/\$$$

i.e. Price decreased by 5% & $ed = 1.3$

$\therefore$ units will increase by $1.3 \times 5 = 6.5\%$

$$\text{New Quantity} = 18000 \times 1.065 = 19170 \text{ units}$$

• Profit based on expected spot rate after 3 months

Revenue	$(19170 \times 28.5 \times 90)$	49171050
(-) cost of production	(19170×1800)	34506000
		<u>14665050</u>

• Profit based on current exchange rate of ₹ 86.32/\$ -

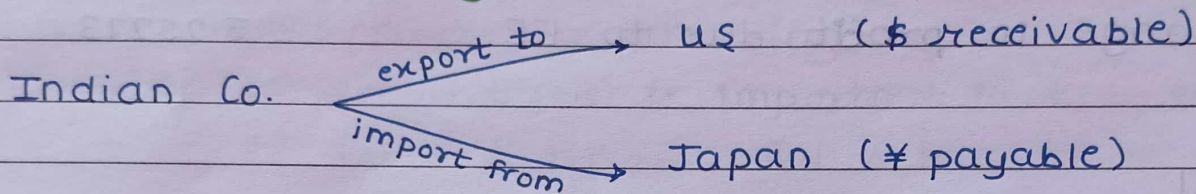
Revenue	(18000 × 30 × 86.32)	46612800
(-) cost of production	(18000 × 1800)	32400000
		<u>14212800</u>

∴ change in profit due to EE = ₹ 452250

Self practice - Hw @ 26] pg. 11

Part-2

Type 2: HC Invoicing :-



T=0 | T=6m
 S_0 | S_T

Q.1) calculate G/L due to TE.

→ Profit based on S_0 } difference = G/L
 Profit based on S_T }

Q.2) Now ₹ invoicing for exports : EE

But continue ¥ invoicing for import : TE

S_0^* & ed → given

Calculate G/L due to TE & EE.

→ TE : use old units

Profit based on S_0^* } difference = G/L on TE
 Profit based on S_T }

→ EE : Step 1 - S_0 & S_0^* so calculate old \$ price & new \$ price.

∴ $\Delta P\%$, ed, $\Delta Q\%$, Q_{new}

Profit based on S_0^* & old Q } difference b/w → G/L
 Profit based on S_T & new Q } on EE

Q.42 PG
CW. 17

(a) Profit based on current exchange rate -

Revenue	$(6000 \times 165 \times 59.60)$	59004000
(-) Import cost	$(6000 \times 750 \times 5.98)$	26910000
(-) V.C & F.C	$[6000 \times (1200 + 2500)]$	22200000
		<u>₹ 9894000</u>

• Profit based on exchange rate after 6m -

Revenue	$(6000 \times 165 \times 60.30)$	59697000
(-) Import cost	$(6000 \times 750 \times 6.25)$	28125000
(-) V.C. & F.C.	$[6000 \times (1200 + 2500)]$	22200000
		<u>₹ 9372000</u>

∴ Reduction in profit due to TE = ₹ 522000 = Loss

(b) (i) Loss / Gain due to TE:

• Profit based on new current exchange rate -

Revenue	$(6000 \times ₹ 9500)$	57000000
(-) Import cost	$(6000 \times 750 \times 6.02)$	27090000
(-) V.C. & F.C.	(6000×3700)	22200000
		<u>₹ 7710000</u>

• Profit based on exchange rate after 6m

Revenue	$(6000 \times ₹ 9500)$	57000000
(-) Import Cost	$(6000 \times 750 \times 6.25)$	28125000
(-) V.C. & F.C.	(6000×3700)	22200000
		<u>₹ 6675000</u>

Decline in profit i.e. Loss due to TE = ₹ 1035000

[we would have alternatively shown -

Loss = $6000 \times 750 \times (6.25 - 6.02) = ₹ 1035000$ directly]

(ii) ₹ equivalent price based on $S_0 = \frac{9500}{59.60} = ₹ 159.40/€$

₹ equivalent price based on $S_0^* = \frac{9500}{59.85} = ₹ 158.73/€$

∴ Price ↓ by 0.42%, $ed = 2.5$

∴ Q ↑ $0.42 \times 2.5 = 1.05\%$

$$\therefore \text{New } Q = 6000 \times 1.0105 = 6063 \text{ units}$$

- Profit based on new ^{current} exchange rate = ₹7710000 (see abv)
- Profit based on exchange rate after 6m & new Q -

Revenue	(6063 × 9500)	57598500
(-) Import Cost	(6063 × 750 × 6.25)	28420313
(-) V.C.	(6063 × 2500)	15157500
(-) F.C.	(6000 × 1200)	7200000
		<u>₹ 6820687</u>

$$\therefore \text{Loss due to OE} = ₹ 889312$$

Self practice: Q.27] HW pg. 12 → ICAI exam Q.