FOREX CLASS 23

HOME WORK SUPPORT

COVERAGE

Question			Answer			Lecture Time
Q. No	Page no.	Book	Q. No	Page no.	Book	
44	17	HW Q BOOK	44	29	HW ANS BOOK	00:00:31 - 00:05:41
45	17	HW Q BOOK	45	29	HW ANS BOOK	00:05:42 - 00:15:00
EXTRA Q1	76	HW ANS BOOK	EXTRA Q1	77	HW ANS BOOK	00:15:01 – 00:20:07
EXTRA Q2	78	HW ANS BOOK	EXTRA Q2	78	HW ANS BOOK	00:20:08 – 00:22:35
46	18	HW Q BOOK	46	30	HW ANS BOOK	00:22:36 – 00:24:27
47	18	HW Q BOOK	47	30	HW ANS BOOK	00:24:28 – 00:32:09
48	18	HW Q BOOK	48	31	HW ANS BOOK	00:32:10 – 00:48:36
64	26	CW Q BOOK	64	40	CW ANS BOOK	00:48:37 – 01:07:56
69	28	CW Q BOOK	69	44	CW ANS BOOK	01:07:57 – 01:10:38

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 21 FC VS MMC

Question 44: SSEI HW Book Page No. 17

XYZ has taken a six-month loan from its foreign collaborator for USD 2 millions. Interest is payable on maturity @ LIBOR plus 1%. The following information is available:

Spot Rate	INR/USD	68.5275
6 months Forward rate	INR/USD	68.4575
6 months LIBOR for USD	2%	
6 months LIBOR for INR	6%	

You are required to :

i. Calculate Rupee requirements if forward cover is taken.

ii. Advise the company on the forward cover.

What will be your opinion if spot rate of INR/USD is 68.4275?

(Source: ICAI)

ANSWER:

i. Rupee requirement if forward cover is taken:

6 Month Forward rate	68.4575
Interest amount $\left(20,00,000 \text{ x } 3\%^{*} \text{x} \frac{6}{12}\right)$	US$30,000
Principal amount	US$ 20,00,000
	US$ 20,30,000

Rupee Requirement = INR 68.4575 X US$ 20,30,000 = INR 13,89,68,725

* LIBOR + 1%

ii. Forward Rate as per Interest Rate Parity after 6 months is expected to be:

$= 68.5275 \text{ x} \frac{(1.03)}{(1.01)} = 69.8845/US\$$

The company should take forward cover because as per Interest Rate Parity, the rate after 6 months is expected to be higher than forward rate.

However, if spot rate is 68.4275, the expected rate as per Interest Rate Parity shall be:

$= 68.4275 \text{ x} \frac{(1.03)}{(1.01)} = 69.7825/US\$$

Thus, still the company should take forward cover.

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 21 FC VS MMC

Question 45: SSEI HW Book Page No. 17

An Indian exporting firm, Rohit and Bros., would be covering itself against a likely depreciation of pound sterling. The following data is given:

Receivables of Rohit and Bros	: £500,000
Spot rate	: Rs. 56.00/£
Payment date	: 3-months
3 months interest rate	: India : 12 per cent per annum
	: UK : 5 per cent per annum

Advice what should the exporter do?

(Source: ICAI)

ANSWER:

The only thing lefts Rohit and Bros to cover the risk in the money market. The following steps are required to be taken:

i. Borrow pound sterling for 3- months. The borrowing has to be such that at the end of three months, the amount becomes £ 500,000. Say, the amount borrowed is £ x. Therefore

$$x\left[1+0.05\times\frac{3}{12}\right]=500{,}000 \text{ or } x = £493{,}827$$

ii. Convert the borrowed sum into rupees at the spot rate. This gives:

£493,827 × ₹ 56 = ₹ 27,654,312

iii. The sum thus obtained is placed in the money market at 12 per cent to obtain at the end of 3-months:

$$S = ₹\ 27{,}654{,}312 \times \left[1+0.12\times\frac{3}{12}\right] = ₹\ 28{,}483{,}941$$

iv. The sum of £500,000 received from the client at the end of 3- months is used to refund the loan taken earlier.

From the calculations. It is clear that the money market operation has resulted into a net gain of ₹ 483,941 (₹ 28,483,941 – ₹ 500,000 × 56).

If pound sterling has depreciated in the meantime. The gain would be even bigger.

PART IV: INTERNATIONAL PARITY CONDITIONS

EXTRA QUESTION

Topic 21 FC VS MMC

Question 1: HW ANS BOOK PAGE 76

An Indian company, not willing to take any foreign exchange risk always invoices it's sales in rupees. As the company is enjoying monopoly position, the buyer normally never objected to such invoices. However, recently, an order has been received from a major USA conglomerate for 1 million dollars. The other conditions of the order are as follows:

a. The delivery shall be made within 2 months.
b. The invoice should be in USD.

Since, company is not interested in losing this contract only because of practice of invoicing in Indian Rupee. The Export Manger Mr.X approached the banker of Company seeking their guidance and further course of action.

The banker provided following information to Mr. E.

a. Spot rate 1 USD = 81.20 INR
b. Forward rate (60days) of 1 USD = 80.10 INR
c. Interest rate in India is 6% and in USA is 9%.

Mr. X entered in forward contract with banker for 60 days to sell USD at above mentioned rate. When the matter come for consideration before Mr. Z, Accounts Manager of company, he approached you.

You as a Forex consultant is required to comment on:

i. Whether there is an arbitrage opportunity exists or not.
ii. Whether the action taken by Mr. X is correct and if bank agrees for negotiation of rate, then at what forward rate company should sell USD to bank.

(Source: FOD)

ANSWER:

Invoice amount in Indian Rupee = USD10,00,000 x 81.20
= INR 8,12,00,000

i. Interest Rate in India 6% p.a.
Interest Rate in USA 9% p.a
The interest rate differential 6% - 9% = -3% (Positive Interest Differential)

Forward discount = (F-S/S)×100×12/2

= (80.10-81.20/81.20) ×100×12/2
= -8.12% (Forward discount)

Since the forward discount is greater than interest rate differential there will be arbitrage inflow into the country (India).

ii. The decision taken by Mr. X was not correct because as per Interest Rate Parity Theory, forward rate for sale should be 1 USD = INR 80.794, calculated as follows:
Let F be the forward rate, then as per Interest Rate Parity theory, it should have been as follows:
(F – 81.20/81.20) × 100 × 12/2 = –3
(F – 81.20/81.20) = –3/600
600F – 48720 = –243.60
600F = 48476.40
F = 80.794

PART I: CURRENCY BASICS

EXTRA QUESTION

Topic 5 FORWARD RATE - TOOL FOR SPECULATION AS WELL AS HEDGING

Question 2: HW ANS BOOK PAGE 78

ABC Ltd. in the UK has exported goods worth CAD 300,000, receivable in 9 months. The exporter wants to hedge the receipt in the forward market. The following information is available:

Spot Exchange Rate: CAD 1.70/GBP

Interest Rate in the UK: 8%

Interest Rate in Canada: 12%

The forward rates truly reflect the interest rate differential. Find out the gain/loss to the UK exporter if CAD spot rates (i) decline 3%, (ii) gain 5%, or (iii) remain unchanged over the next 9 months.

(Source: FOD)

ANSWER:

First, we need to calculate the forward exchange rate based on the interest rate differential and the 9-month tenor:

Forward Rate = Spot Rate x (1 + Interest Rate in the Canada x 9/12) / (1 + Interest Rate in UK x 9/12)

Forward Rate = CAD 1.70/GBP x (1 + 12% x 9/12) / (1 + 8% x 9/12)

Forward Rate = CAD 1.7481/GBP

i. **If CAD spot rates decline by 3%:**

Spot Rate = CAD 1.70 x 1.03 = CAD 1.7510/GBP

GBP receipt as per forward rate (CAD 300,000 / CAD 1.7481) = GBP 171,615

GBP receipt as per spot rate (CAD 300,000 / CAD 1.7510) = GBP 171,330

Gain due to forward contract = GBP 285

ii. **If CAD spot rates gain by 5%:**

Spot Rate = CAD 1.70 × 0.95 = CAD 1.6150 /GBP

GBP receipt as per forward rate (CAD 300,000 / CAD 1.7481) = GBP 171,615

GBP receipt as per spot rate (CAD 300,000 / CAD 1.6150) = GBP 185,759

Loss due to forward contract = GBP 14,144

iii. If CAD spot rates remain unchanged:

GBP receipt as per forward rate (CAD 300,000 / CAD 1.7481) = GBP 171,615

GBP receipt as per spot rate (CAD 300,000 / CAD 1.70) = GBP 176,471

Loss due to forward contract = GBP 4,866

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 22 LEADING AND LAGGING

Question 46: SSEI HW Page No. 18

An Indian importer has to settle an import bill for $ 1,30,000. The exporter has given the Indian exporter two options:

i. Pay immediately without any interest charges.

ii. Pay after three months with interest at 5 percent per annum.

The importer's bank charges 15 percent per annum on overdrafts. The exchange rates in the market are as follows:

Spot rate (₹ /$) : 48.35 /48.36

3-Months forward rate (₹/$) : 48.81 /48.83

The importer seeks your advice. Give your advice.

(Source: ICAI)

ANSWER:

If importer pays now, he will have to buy US$ in Spot Market by availing overdraft facility. Accordingly, the outflow under this option will be

	₹
Amount required to purchase $130000[$130000 X ₹48.36]	6286800
Add: Overdraft Interest for 3 months @15% p.a.	235755
	6522555

If importer makes payment after 3 months then, he will have to pay interest for 3 months @ 5% p.a. for 3 month along with the sum of import bill. Accordingly, he will have to buy $ in forward market. The outflow under this option will be as follows:

	$
Amount of Bill	130000
Add: Interest for 3 months @5% p.a.	1625
	131625

Amount to be paid in Indian Rupee after 3 month under the forward purchase contract

₹ 6427249 (US$ 131625 X ₹ 48.83)

Since outflow of cash is least in (ii) option, it should be opted for.

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 22 LEADING AND LAGGING

Question 47: SSEI HW Book Page No. 18

DEF Ltd.has imported goods to the extent of US$ 1 crore. The payment terms are 60 daysinterest-free credit. For additional credit of 30 days, interest at the rate of 7.75% p.a. will be charged.

The banker of DEF Ltd. has offered a 30 days loan at the rate of 9.5% p.a. Their quote for the foreign exchange is as follows:

Spot rate INR/US$	62.50
60 days forward rate INR/US$	63.15
90 days forward rate INR/US$	63.45

Advise which one of the following options would be better?

i. Pay the supplier on 60th day and avail bank loan for 30 days.
ii. Avail the supplier's offer of 90 days credit.

(Source: ICAI)

ANSWER:

i. Pay the supplier in 60 days

If the payment is made to supplier in 60 days the applicable forward rate for 1 USD	₹ 63.15
Payment Due	USD 1 crore
Outflow in Rupees (USD 1 crore × ₹ 63.15)	₹ 63.15 crore
Add: Interest on loan for 30 days@9.5% p.a.	₹ 0.50 crore
Total Outflow in ₹	₹ 63.65 crore

ii. Availing supplier's offer of 90 days credit

Amount Payable	USD 1.00000 crore
Add: Interest on credit period for 30 days@7.75% p.a.	USD 0.00646 crore
Total Outflow in USD	USD 1.00646 crore
Applicable forward rate for 1 USD	₹ 63.45
Total Outflow in ₹ (USD 1.00646 crore × ₹ 63.45)	₹ 63.86 crore

Alternative 1 is better as it entails lower cash outflow.

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 22 LEADING AND LAGGING

Question 48: SSEI HW Page No. 18

Z Ltd. importing goods worth USD 2 million, requires 90 days to make the payment. The overseas supplier has offered a 60 days interest free credit period and for additional credit for 30 days an interest of 8% per annum.

The bankers of Z Ltd offer a 30 days loan at 10% per annum and their quote for foreign exchange is as follows:

	₹
Spot 1 USD	56.50
60 days forward for 1 USD	57.10
90 days forward for 1 USD	57.50

You are required to evaluate the following options:

i. Pay the supplier in 60 days, or

ii. Avail the supplier's offer of 90 days credit.

(Source: ICAI)

ANSWER:

i. Pay the supplier in 60 days

If the payment is made to supplier in 60 days the applicable forward rate for 1 USD	₹ 57.10
Payment Due	USD 2,000,000
Outflow in Rupees (USD 2000000 × ₹57.10)	₹114,200,000
Add: Interest on loan for 30 days@10% p.a.	₹ 9,51,667
Total Outflow in ₹	₹11,51,51,667

ii. Availing supplier's offer of 90 days credit

Amount Payable	USD 2,000,000
Add: Interest on credit period for 30 days@8% p.a.	USD 13,333
Total Outflow in USD	USD 2,013,333
Applicable forward rate for 1 USD	₹57.50
Total Outflow in ₹ (USD 2,013,333 × ₹57.50)	₹115,766,648

Alternative 1 is better as it entails lower cash outflow.

PART IV: INTERNATIONAL PARITY CONDITIONS

Topic 21 FC VS MMC

Question 64: SSEI CW Book Page No.26

True Blue Cosmetics Ltd. is an old line producer of cosmetics products made up of herbals. Their products are popular in India and all over the world but are more popular in Europe.

The company invoice in Indian Rupee when it exports to guard itself against the fluctuation in exchange rate. As the company is enjoying monopoly position, the buyer normally never objected to such invoices. However, recently, an order has been received from a wholesaler of France for FFr 80,00,000. The other conditions of the order are as follows:

a. The delivery shall be made within 3 months.
b. The invoice should be FFr.

Since, company is not interested in losing this contract only because of practice of invoicing in Indian Rupee. The Export Manger Mr. E approached the banker of Company seeking their guidance and further course of action.

The banker provided following information to Mr. E.

a. Spot rate 1 FFr = ₹ 6.60
b. Forward rate (90 days) of 1 FFr = ₹ 6.50
c. Interest rate in India is 9% and in France is 12%.

Mr. E entered in forward contract with banker for 90 days to sell FFr at above mentioned rate.
When the matter come for consideration before Mr. A, Accounts Manager of company, he approaches you.

You as a Forex consultant is required to comment on:

i. Whether there is an arbitrage opportunity exists or not.
ii. Whether the action taken by Mr. E is correct and if bank agrees for negotiation of rate, then at what forward rate company should sell FFr to bank.

(*Source: ICAI*)

ANSWER:

Invoice amount in Indian Rupee = FFr 80,00,000 x ₹ 6.60
= ₹ 5,28,00,000

i. Interest Rate in India 9% p.a.
Interest Rate in France 12% p.a
The interest rate differential 9% - 12% = 3% (Positive Interest Differential)

$$\text{Forward Discount} = \frac{\text{Forward Rate - Spot Rate}}{\text{Spot Rate}} \times \frac{12}{3} \times 100$$

$$= \frac{6.50 - 6.60}{6.60} \times \frac{12}{3} \times 100$$

$$= -6.061 \text{ (Forward Discount)}$$

Since the forward discount is greater than interest rate differential there will be arbitrage inflow into the country (India).

ii. The decision taken by Mr. E was not correct because as per Interest Rate Parity Theory, forward rate for sale should be 1 FFr = ₹ 6.65, calculated as follows:

Let F be the forward rate, then as per Interest Rate Parity theory, it should have been as follows:

$$\frac{F - 6.6}{6.6} \times \frac{12}{3} \times 100 = -3 \text{ (Interest Differential)}$$

$$\frac{F - 6.6}{6.6} = \frac{-3}{400}$$

400F – 2640 = -19.8

400F = 2659.80

F = 6.6495 say 6.65.

Question 69: SSEI CW Book Page No. 28

Gibralater Limited has imported 5000 bottles of shampoo at landed cost in Mumbai, of US $ 20 each. The company has the choice for paying for the goods immediately or in 3 months' time. It has a clean overdraft limited where 14% p.a. rate of interest is charged.

Calculate which of the following method would be cheaper to Gibralter Limited.

i. Pay in 3 months' time with interest @ 10% and cover risk forward for 3 months.
ii. Settle now at a current spot rate and pay interest of the overdraft for 3 months.

The rates are as follows:

Mumbai Rs. /$ spot	: 60.25-60.55
3 months swap	: 35/25

(Source: ICAI)

ANSWER:

Option - I

$20 x 5000 = $ 1,00,000

Repayment in 3 months time = $1,00,000 x (1 + 0.10/4) = $ 1,02,500

3-months outright forward rate = Rs.59.90/ Rs.60.30

Repayment obligation in Rs.($1,02,500 X Rs.60.30) = Rs.61,80,750

Option -II

Overdraft ($1,00,000 x Rs.60.55)	Rs.60,55,000
Interest on Overdraft (Rs.60,55,000 x 0.14/4)	Rs.2,11,925
	Rs.62,66,925

Option I should be preferred as it has lower outflow.