FOREX CLASS 9

CLASS WORK COVERAGE

To streamline our learning process, I've categorized the questions we'll tackle in class into four distinct groups:

1. ***Classic:*** *These questions are exactly as presented in your book, providing a familiar foundation.*
2. ***Transformed:*** *Here, we've converted book questions into multiple-choice format to enhance your analytical skills.*
3. ***Adapted:*** *These are similar to book questions but with altered numbers or names, presented as multiple-choice questions for varied practice.*
4. ***Original:*** *These are entirely new questions not found in your book, designed to challenge and expand your understanding.*

This structure will help us navigate through a range of problems, ensuring a comprehensive grasp of the material. Looking forward to our next session!

Q. No	Type	Book	Page No.	Q No.
1	***Classic***	CW Q BOOK	21	54
2	***Classic***	CW Q BOOK	22	55
3	***Adapted***	-	-	-
4	***Classic***	HW ANS. BOOK	51	EXTRA Q.
5	***Classic***	HW ANS. BOOK	53	EXTRA Q.

Question 1:

The Treasury desk of a global bank incorporated in UK wants to invest GBP 200 million on 1st January, 2019 for a period of 6 months and has the following options:

1. The Equity Trading desk in Japan wants to invest the entire GBP 200 million in high dividend yielding Japanese securities that would earn a dividend income of JPY 1,182 million. The dividends are declared and paid on 29th June. Post dividend, the securities are expected to quote at a 2% discount. The desk also plans to earn JPY 10 million on a stock borrow lending activity because of this investment. The securities are to be sold on June 29 with a T+1 settlement and the amount remitted back to the Treasury in London.
2. The Fixed Income desk of US proposed to invest the amount in 6 month G-Secs that provides a return of 5% p.a.

The exchange rates are as follows:

Currency Pair	1 Jan 2019 (Spot)	30 Jun 2019 (Forward)
GBP - JPY	148.0002	150.0000
GBP- USD	1.28000	1.30331

As a treasurer, advise the bank on the best investment option. What would be your decision from a risk perspective? You may ignore taxation.

Answer:

1. **Yield from Investment in Equity Trading Index in Japan**

Conversion of GBP 200 million in JPY (148.0002)	JPY 29600.04 Million
Dividend Income	JPY 1182.00 Million
Stock Lending	JPY 10.00 Million
Investment Value at End	JPY 29008.0392 Million
Amount available at End	JPY 30200.0392 Million
Forward Rate of 30.06.2019	JPY 150/ GBP
Amount to be Remitted back to London	GBP 201.3336 Million
Gain = 201.3336 – 200	GBP 1.3336 Million

2. **Fixed Income Desk of US**

Conversion of GBP 200 million in USD (1.28000)	USD 256.00 Million
Add: Interest @ 5% p.a. for 6 months	USD 6.40 Million

Amount available at End	USD 262.40 Million
Forward Rate of 30.06.2019	USD 1.30331/ GBP
Amount to be Remitted back to London	GBP 201.3335 Million
Gain = 201.3335 – 200	GBP 1.3335 Million

Decision: Investment in Japanese Yen is preferred over the investment in USD G- Sec as there is a marginal gain. From a risk perspective, the company should go for Option-2 Investment in G-Secs as they are risk free

OR

The equivalent amount at the end of 6 months shall be almost same in both the options. The bank can go for any of the options.

However, from risk perspective, the investment in fixed income desk of US is more beneficial as the chance of variation in fixed income securities is less as compared to Equity Desk.

Question 2:

With relaxation of norms in India for investment in international market upto $ 2,50,000, Mr. X to hedge himself against the risk of declining Indian economy and weakening of Indian Rupee during last few years, decided to diversify in the International Market.

Accordingly, Mr. X invested a sum of Rs. 1.58 crore on 1.1.20x1 in Standard & Poor Index. On 1.1.20x2 Mr. X sold his investment. The other relevant data is given below:

	1.1.20x1	1.1.20x2
Index of Stock Market in India	7395	?
Standard & Poor Index	2028	1919
Exchange Rate (Rs./$)	62.00/62.25	67.25/67.50

You are required to Calculate:

i. The return for a US investor.

ii. Holding Period Return to Mr. X.

iii. The value of Index of Stock Market in India as on 1.1.20x2 at which Mr. X would be indifferent between investment in Standard & Poor Index and India Stock Market.

Answer:

i. Return of a US Investor

$$\frac{\text{Ending Price - Initial Price}}{\text{Initial Price}} \times 100$$

$$\frac{1919 - 2028}{2028} \times 100 = -5.37\%$$

ii. Return of Mr. X

Initial Investment (Rs.)	1.58 Crore
Applicable Exchange Rate on 1.1.20x1	Rs. 62.25
Equivalent US$	US$ 2,53,815.26
Purchase Price of Standard & Poor Index	2028
No. of Standard & Poor Indices Purchased	125.16
Ending Price of Standard & Poor Index	1919
Proceeds realised in US$ on sale of Standard & Poor Index	US$ 2,40,182.04
Applicable Exchange Rate on 1.1.20x2	Rs. 67.25
Proceeds realised in INR on sale of Standard & Poor Index	Rs. 1,61,52,242
Rate of Return $\left(\frac{16152242 - 15800000}{15800000} \times 100\right)$	2.23%

iii. Rate of Return had the amount been invested in India

Initial Investment (Rs.)	1.58 Crore
Purchase Price of Indian Index	7395
No. of Indian Indices Purchased	2136.58
Let Ending Price of Indian Index	X
Then to be indifferent with return in International Market	2.23

$\frac{2136.58 \times X - 1.58}{1.58} \times 100$	
Price of Indian Index to be indifferent	7559.90 say 7560

Question 3:

Hopeful Ltd., an Indian MNC is executing a plant in Nepal. It has raised INR 400 Billion. Half of the amount will be required after six months' time. Hopeful Ltd. is looking for an opportunity to invest this amount for a period of six months. It is considering following two options:

Market	**UK**	**Europe**
Nature of Investment	Index Fund (GBP)	Treasury Bills (Euro)
Dividend (GBP in Billions)	0.1369	-
Income from stock lending (GBP in Billions)	0.0007	-
Discount on the investment value at the end	2%	-
Interest	-	7.8 percent per annum
Exchange Rate (Spot)	GBP/ INR 0.0099	EUR/INR 0.011
Exchange Rate (6 month Forward)	GBPI INR 0.0100	EUR/INR 0.011

As an investment manager advise the best option to invest.

Answer:

i. Investment in UK Market

(in billions)

Particulars	Currency INR	ER	Currency GBP
Available amount	200	0.0099	1.98
Dividend Income			0.1369
Stock Lending Income			0.0007
Investment value at the end after discount @ 2%			1.9404
			2.0780
Amount available at the end of 6-months			
Conversion after 6 months		0.0100	₹ 207.80
Gain			₹ 7.80

ii. Investment in Europe

(in billions)

Particulars	Currency INR	ER	EUR
Available amount	200	0.011	2.2000
Interest for 6 months @ 7.80% p.a.			0.0858
Amount available at the end			2.2858
Amount available at the end of 6-months			
Conversion after 6 months		0.011	₹ 207.80
Gain			₹ 7.80

The gain amount is same in both the options so Hopeful Ltd. is indifferent. However, Treasury Bills are risk free, so investment in Treasury Bills (Euro) is suggested.

Alternative Solution

i. If investment is made in Index Fund (GBP)

Initial Investment (₹ 200 Billion x 0.0099)	GBP 1.9800 billions
Dividend Income	GBP 0.1369 billions
Income from Stock Lending	GBP 0.0007 billions
Discount	(GBP 0.0396 billions)
Value of Investment after 6 months	GBP 2.0780 billions
Value of Investment after 6 months in ₹ @ GBP/ INR	₹ 207.8000 billions

ii. If investment is made in Treasury Bills (Europe)

Initial Investment (₹ 200 Billion x 0.011)	EUR 2.2000 billions
Interest for 6 months @ 7.8% p.a.	EUR 0.0858 billions
Value of Investment after 6 months	EUR 2.2858 billions
Value of Investment after 6 months in ₹ @ EUR/ INR 0.011	₹ 207.8000 billions

The equivalent amount is same in both the options so Hopeful Ltd. is indifferent. However, Treasury Bills are risk free, so investment in Treasury Bills (EUR) is suggested.

Question 4:

The Treasury department of a big oil corporation in UK wants to invest 500 million pounds for 6 months and they have two options available.

1. They can invest the amount in Indian securities which would earn a dividend income of 988 million rupees. The stock is expected to trade at 5% above the purchase price at the end of 6 months.

2. They can invest in Russian Securities. These Securities are not expected to provide any dividend income but it is expected to trade 10% above purchase price. It is also expected to earn 325.2 million Ruble on stock lending activity.

   In both these options the securities are sold at the end of 6 months and amount is to be remitted back to London.

   The exchange rate are as follows:

	Spot	6 months Forward
INR/GBP	98.80	97.50
RUB/GBP	89.60	91.50

   a. Advice the company on the best investment option assuming same risk for both the countries?

   b. Would your advice be different if Russia is actively engaged in a war with its neighbor?

Answer:

1. **Indian Investment**

Step 1: Convert £ 500m to ₹

= 500 × 98.80

= 49,400 million rupees

Step 2: Ending value

49,400(1.05)	₹ 51,870 million
Add: Dividend Income	₹ 988 million
	₹52,858 million

Step 3: Convert ₹ 52,858 million back to £

= 52,858/97.50

= £ 542.133 million

Profit = £42.133 million

2. **Russian Investment**

Step 1: Convert 500 million GBP into Russian Ruble(RUB)

= 500 × 89.60

= 44,800 million RUB

Step 2: Ending value

44,800 (1.1)	49,280 million RUB
Add: Stock lending activity	325.20 million RUB
	49,605.20 million RUB

Step 3: Convert 49,605.20 million Rubles into Pounds

= 49,605.20/91.50

= 542.1333 million Pounds

Profit =£ 42.133 million

a. Since both the investments gave same return and have same risk, we can choose any of these two countries to invest.

b. If Russia is engaged in a war, it increases the risk of Russian investment. Even though both these investments give same return, Since Russian investment is rising we should invest in India.

Question 5:

Mr. X a US citizen is not happy with the returns he is generating by investing in Standard & Poor. So he decided to invest in emerging markets and selected India to invest.

Accordingly, he invested $1,50,000 on 1st January 2022 in Nifty index. On 31st December 2022 he sold his investment. The other relevant data is given below:

	1.1.2022	31.12.2022
Nifty	16200	17900
Standard & Poor Index	3800	?
Exchange Rate(Rs./$)	81.10/81.25	82.25/82.50

You are required to Calculate:

i. The return for an Indian investor.

ii. Holding Period Return to Mr. X.

iii. The value of S&P index as on 31.12.2022 at which Mr .X would be indifferent between investment in Standard & Poor Index and India Stock Market.

iv. Classify the return generated by Mr. X into
   a. stock component
   b. currency component
   c. cross product

Answer:

i. Return of Indian Investor

=[(17900/16200)-1]×100

= 10.49% approx.

ii. Return of Mr. X

Spot buy rupees @ 81.10 ₹/$ = 1,50,000×81.10
= ₹1,21,65,000

Invest in nifty:

No of units of nifty bought = 12165000/16200
= 750.93 units

₹ value at the end of the year = 750.93×17900
= ₹ 1,34,41,647

Convert the sale proceeds back into dollars @ 82.5 ₹/$
= 13441647/82.5
= $ 1,62,929

H.P.R. = [(1,62,929-1,50,000)/1,50,000]×100
= 8.62%

iii. If he got a return of 8.62% in US he would have invested in Us itself.
So the indifference price would be 3800 × 1.0862 = $4127.56

iv.

a. Return on stock component = [(17900-16200)/16200]×100 = 10.49%

b. Return on currency = [(81.1/82.5)-1]×100 = -1.6969%

Note: For US investor dollar is not the foreign currency, rupee is the foreign currency. So % appreciation or depreciation on rupee should be calculated

But in the quote given dollar is the base currency

So we are doing 81.1/82.5 to find the % depreciation of rupee

Cross component = -1.6969% of 10.49% = -0.178