



PG – 596

III Semester M.Com. (F.A.)/MFA Examination, December 2016  
(CBCS)

Paper – 3.3 : FOREX AND DERIVATIVES

Time : 3 Hours

Max. Marks : 70

*Instruction : Answer all Sections.*

SECTION – A

Answer **any seven** sub-questions out of ten. **Each** sub-question carries **two** marks.

(7×2=14)

1. a) What are the instruments of foreign exchange market ?
- b) What is synthetic quote ?
- c) What is merchant quote ?
- d) What is meant by translation exposure ?
- e) What is leading and lagging ?
- f) What is the difference between FERA and FEMA ?
- g) What is meant by money market hedge ?
- h) What do you mean by credit derivatives ?
- i) What are the components of option premium ?
- j) What is Forward Rate Agreement ?

SECTION – B

Answer **any four** questions out of six. **Each** question carries **five** marks.

(4×5=20)

2. What are the features of foreign exchange future contracts ?
3. Explain in brief put-call parity principle of option contracts.
4. What are the differences between interest rate caps and floors ?

P.T.O.



5. Using the following information, determine the theoretical forward rate and also explain whether there exists a provision for arbitrage :

Spot rate 1 £ = \$ 2.00

180 days forward rate of £ as of today = \$ 1.96

Interest rates are as follows :

**U.K. U.S.**

180 days deposit rate 4.5%, 5.00%.

6. Interest rate in Euroland and in India at 3.50% and 6% p.a. respectively. If the spot Rupee/Euro rate is 51.75, what is your estimate of future spot rate if the interest rate parity theory holds good ? If the forward rate is 52, what action would follow ? If the forward rate is 54, will there be a change in action ?
7. Mr. Albert buys a starting June IRF at 94. The future prices can move to 93.30 or it may shift to 94.70. Explain the implications and compute the gain or loss on the contract.

#### SECTION – C

Answer **any three** questions. **Each** question carries **12** marks : **(3×12=36)**

8. What are the types of foreign exchange quotes ? Explain those with examples.
9. Exporter is a UK based company. Invoice amount \$ 3,50,000. Credit period three months. Exchange rates in London :

\$/£ spot 1.5865 — 1.5905

3 months forward 1.6100 — 1.6140

Money market rates :

	Deposit	Loan
\$	7%	9%
£	5%	8%

Compute and show how a money-market hedge can be put in place.



10. Assume you are the CFO of a company in UK. In 3 months time (say November), your company needs to borrow GBP 5 million. Your company can currently borrow at 9% p.a. You expect that interest rates may rise before November. The 3-months starting interest rate futures for December is currently trading at 93.34. Required :
- Demonstrate how a future hedge can be set up
  - Also illustrate the result of the hedge if by November, if the interest rate by 1% and future price falls by 1.00 or if the interest rate falls by 1% and future price moves up by 0.48. Assume contract size is 5,00,000 GBP.
11. From the following information find call and put option values (premium) using Black – Scholes model :
- Spot rate – ₹ 100.50/£ ;
- Strike Rate (₹) – 102.50/£ ;
- Maturity period – 6 months ;
- CCRFI – 10% p.a.
- Standard deviation – 0.54.
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III Semester M.F.A. Examination, December 2015  
(CBCS Scheme)  
FINANCE AND ACCOUNTING  
3.3 : Forex and Derivatives

Time : 3 Hours

Max. Marks : 70

**Instruction :** Answer all Sections.

## SECTION – A

Answer any seven sub-questions out of ten. Each sub-question carries two marks : (7×2=14)

1. a) What is meant by foreign exchange market ?
- b) What do you mean by International Fisher Effect ?
- c) What is a Mark-To-Market (MTM) ?
- d) What is meant by currency devaluation ?
- e) What do you mean by exchange traded derivatives ?
- f) Expand : CHIPS, SWIFT.
- g) What is an Interest Rate Swap ?
- h) Consider the following bid-ask prices : Rs. 60.00 – 60.75/US \$. Find the Bid-Ask spread.
- i) Find out the forward rate differential if spot rate of US \$ is Rs. 65.00 and one month forward rate is Rs. 65.80.
- j) Find Rs./€ exchange rate if : the two exchange rates are : Rs. 63.83 – 63.95/US \$ and € 0.83 – 0.84/US \$.

## SECTION – B

Answer any four questions out of six. Each question carries five marks : (4×5=20)

2. What are the characteristics of foreign exchange market ?
3. Futures contract as hedging tools and help in protecting the risks associated with uncertainties in exchange rates, explain.
4. Explain the interest rate caps. Also discuss the difference between interest rate caps and floors.

P.T.O.



5. The US dollar is selling in India at Rs. 65.50. If the interest rate for 6 months borrowing in India is 10% per annum and the corresponding rate in USA is 4%.
- Do you expect that US dollar will be at a premium or at discount in the Indian forex market ?
  - What will be the expected 6-months forward rate for US dollar in India ? and
  - What will be the rate of forward premium or discount ?
6. The following 2-way quotes appear in the foreign exchange market :

	Spot	2 - Months forward
Rs./US \$	Rs. 66.00/ Rs. 66.25	Rs. 67.00/ 67.50

Required :

- How many US dollars should a firm sell to get Rs. 25 lakhs after 2 months ?
  - How many rupees is the firm required to pay to obtain US \$ 2,00,000 in the spot market ?
  - Assume the firm has US \$ 69,000 in current account earning no interest. ROI on rupee investment is 10% p.a. should the firm encash the US \$ now or 2 months later ?
7. Following are the details of cash inflows and outflows in foreign currency denominations of DMS Co. an Indian export firm, which have no foreign subsidiaries :

Currency	Inflow	Outflow	Spot rate	Forward rate
US \$	4,00,00,000	2,00,00,000	48.01	48.82
French Franc (FFr)	2,00,00,000	80,00,000	7.45	8.12
U.K. (£)	3,00,00,000	2,00,00,000	75.57	75.98
Japanese Yen	1,50,00,000	2,50,00,000	3.20	2.40

- Determine the net exposure of each foreign currency in terms of rupees.
- Are any of the exposure positions offsetting to some extent ?



SECTION - C

Answer any three questions out of five. Each question carries twelve marks : (3x12=36)

8. What are the risks to which foreign exchange transactions are exposed ? Explain how to measure the foreign exchange risk exposure and also how to manage the exposure ?

9. A foreign exchange trader gives the following quotes for the Belgian francs spot, one month, three months and six months to US based treasurer.

\$ 0.02478/80      4/6      9/8      14/11

- a) Calculate the outright quotes for one, three and six months forward.
- b) If the treasurer wished to buy Belgian francs three months forward, how much would he pay in \$ ?
- c) If he wished to purchase US \$ one month's forward, how much would he have to pay in Belgian francs ?
- d) Assuming that Belgian francs are being bought, what is the premium or discount, for the one, three and six month forward rates in annual percentage terms ?
- e) What do the above quotations imply in respect of the term structure of interest rates in the USA and the Belgium ?

10. From the following information find call and put option values (premium) using Black-Scholes model :

Spot rate - Rs. 100.50/£; Strike rate (E) - Rs. 102.50/£; Maturity period - 6 months; Continuous compounding interest rate - 12% p.a.; Standard deviation - 0.54.

11. XYZ Ltd., a US firm will need £ 3,00,000 in 180 days. In this connection, the following information is available :

Spot rate 1 £ = \$ 2.00

180 days forward rate of £ as of today = \$ 1.96

Interest rates are as follows :

	UK	US
180 days deposit rate	4.5%	5%
180 days borrowing rate	5%	5.5%



A call option on £ that expires in 180 days has an exercise price of \$ 1.97 and a premium of \$ 0.04.

XYZ Ltd. has forecasted the spot rates 180 days hence as below :

Future rate	Probability
\$ 1.91	25%
\$ 1.95	60%
\$ 2.05	15%

Which of the following strategies would be most preferable to XYZ Ltd. ?

- a) A forward contract
- b) A money market hedge
- c) An option contract
- d) No hedging

Show the calculations in each case.

12. Write short notes in the following :

- a) Leading and Lagging
- b) Meaning and advantages of Netting
- c) Nostro, Vostro and Loro Accounts.

11. XYZ Ltd. a US firm will need £ 2,00,000 in 180 days in the connection of its foreign operations. The following information is available:

Item	Value
Spot rate £ = \$ 2.00	2,00,000
180 days forward rate of £ as of today = \$ 1.95	2,00,000
Interest rate in US as follows:	
180 days Treasury bill	4%
180 days deposit rate	5%

