

Department of MBA
CMRIT Bengaluru
QP and Answer scheme
Global Financial Management
VTU Sem exam 2022 Batch Fourth semester
June/July 2024

Q No	Su No.	Question and Answer:
1.	a.	Explain BOP
<p>Answer:</p> <p>Balance of Payments (BOP) is a financial statement that records all economic transactions between the residents of a country and the rest of the world over a specific period, typically a year or a quarter. It includes two main components: the current account, which records imports, exports, income, and transfers, and the capital account, which tracks investments and financial transfers. The BOP is crucial for understanding a country's economic position, including its trade balance, foreign investments, and currency stability. A BOP surplus indicates more money coming into the country than going out, while a deficit suggests the opposite.</p>		
	b.	Describe the different types of participants in FEM and their roles.
<p>Answer:</p> <p>Central banks control monetary policy and stabilize currency values.</p> <p>Commercial banks act as intermediaries.</p> <p>Brokers facilitate transactions.</p> <p>Hedge funds and investment banks speculate on currency movements.</p> <p>MNCs manage currency risk in international business.</p> <p>Retail traders trade currencies for profit.</p> <p>International organizations support global economic stability.</p> <p>Importers and exporters use the market to settle international trade payments.</p>		
	c.	Discuss the functions of FEM
<p>Answer:</p> <p>Facilitates international trade by converting currencies.</p> <p>Provides currency conversion services for various participants.</p> <p>Ensures liquidity for smooth transactions.</p> <p>Determines exchange rates based on market dynamics.</p> <p>Offers tools for hedging and risk management.</p> <p>Enables speculation and investment opportunities in currencies.</p> <p>Facilitates foreign investment and capital flows.</p> <p>Supports central bank policies and economic stability.</p> <p>Adjusts to economic conditions to maintain equilibrium in trade and investment.</p>		
2.	a.	In India 1£ = ₹78/79. In Europe 1£ = 1.2/1.3€. In India What is 1€ = ₹
<p>Answer:</p> <p>Based on the buying rates: 1€ = ₹64.92</p> <p>Based on the selling rates: 1€ = ₹60.78</p>		
	b.	Explain the causes of disequilibrium in BOP
<p>Answer:</p> <p>Economic Conditions (inflation, recession, growth).</p> <p>Exchange Rate Changes (depreciation, appreciation).</p>		

Government Policies (fiscal, monetary, trade).

Global Demand and Supply (commodity prices, external shocks).

Capital Movements (foreign investment, speculation).

Structural Factors (competitiveness, productivity, debt).

Political Factors (instability, trade wars).

Foreign Aid and Transfers (reduction in aid, remittances).

Interest Rates and Inflation Differential.

- c. A foreign exchange trader gives the following codes for the Belgium Franc Spot, One month, three months and six months to a US based treasurer.
\$ 0.02368/ 70. 4/5 8/7 14/12
1. Calculates the outright codes for 1, 3 and 6 months forward
 2. If the treasurer wishes to buy Belgium Franc three months forward, how much he would pay in dollars?
 3. If he wishes to purchase US Dollar, one month forward, how much would he have to pay in Belgium Franc?
 4. Assuming that Belgium franc being bought, what is premium or discount for 1, 3 and six month forward rates in annual percentage terms?

Answer:

Outright Forward Codes:

- 1-Month Forward: Bid = 0.02372, Ask = 0.02375.
- 3-Month Forward: Bid = 0.02376, Ask = 0.02377.
- 6-Month Forward: Bid = 0.02382, Ask = 0.02382.

For 3-Month Forward (Buying BEF): The treasurer would pay **\$23,770** for **1,000,000 BEF** (using the ask rate of 0.02377 USD/BEF).

For 1-Month Forward (Buying USD): The treasurer would pay **42.14 BEF** for **1 USD** (using the bid rate of 0.02372 USD/BEF).

Premium/Discount in Annual Percentage Terms:

- 1-Month: **0.25% premium.**
- 3-Month: **0.30% premium.**
- 6-Month: **0.25% premium.**

3. a. Differentiate forward and future contracts

Answer:

Feature	Forward Contracts	Futures Contracts
Trading Venue	Over-the-counter (OTC)	Exchange-traded
Standardization	Customized contracts	Standardized contracts
Settlement	Settled at maturity or by physical delivery	Daily settlement (mark-to-market), often cash-settled
Credit Risk	Higher (no intermediary)	Lower (clearinghouse guarantees)
Flexibility	Highly flexible	Less flexible
Liquidity	Lower liquidity	Higher liquidity
Margin Requirements	No margin required	Margin required
Purpose	Hedging, risk management	Hedging, speculation

- b. Total translation exposure of a company is rupees 1.5 million The exposure is in French Franc. Interest rate are 8% and 11% for the Franc and rupee respectively. How is hedging to be done? Spot rate is Rs per French Franc. The rupees likely to depreciate by 6%.

Answer:

Forward Contract: Enter into a forward contract to buy **1,500,000 French Francs** at the forward rate of **1.02778 times the spot rate** (due to the interest rate differential).

Protection Against Depreciation: This hedging strategy locks in the exchange rate and protects the company from the risk of the rupee depreciating by 6% against the French Franc.

- c. Given the following data
 Spot Rate is ₹82.0010/\$.
 6 month forward rate ₹82.8020/\$
 Analysed interest rate on 6 months - 12%
 Analysed interest rate on six months dollar – 8%
 Calculate the arbitrage possibilities for an investment of \$1000

Answer:

There is an **arbitrage opportunity** in this case because you can make a risk-free profit of **\$50** by:

- Converting \$1000 to ₹82,001 at the spot rate.
- Investing the ₹82,001 at 12% annual interest for 6 months.
- Converting the INR back to USD at the 6-month forward rate to end up with \$1050.

Thus, you would make a **\$50 profit** on an investment of \$1000 over 6 months.

4. a. Explain the types of bonds traded in international bond markets.

Answer:

1. **Government Bonds**
 - Sovereign Bonds
 - Eurobonds (Sovereign)
 - Emerging Market Bonds
2. **Corporate Bonds**
 - International Corporate Bonds
 - Eurobonds (Corporate)
 - High-Yield Bonds (Junk Bonds)
3. **Supranational Bonds**
4. **Municipal Bonds**
 - Foreign Municipal Bonds
5. **Green Bonds**
6. **Foreign Currency Bonds**
7. **Convertible Bonds**
8. **Inflation-Linked Bonds**
 - Inflation-Indexed Bonds
9. **Islamic Bonds (Sukuk)**
10. **Catastrophe Bonds (Cat Bonds)**
11. **Zero-Coupon Bonds**
12. **Perpetual Bonds**

- b. The US inflation rate is expected to average about 4% annually, while the Indian rate of inflation is expected to average about 12% annually. If the current spot rate for the rupee is \$0.0285. What is the expected spot rate in two years

Answer:

The expected spot rate in 2 years is approximately **\$0.0330** per Indian Rupee (₹1). This means the rupee is expected to **depreciate** against the dollar due to the higher inflation rate in India compared to the US.

- c. X company and Y company requires rupees 1 million for 5 years term, and have been offered the following rates

Company	Fixed	Floating
X	9.2%	6 months MIBOR + 0.2%
Y	10.5%	6 months MIBOR + 0.5%

X company desires to borrow floating rate linked to 6 month MIBOR. While Y company wants to borrow at a fixed rate. Design a swap were in the intermediary bank charges 0.2% as commission and will appear equally attractive to both the parties.

Answer:

Final Swap Arrangement:

- **X pays** a fixed rate (to Y) of around **9.8%**.
- **Y pays** a floating rate (to X) of around **6-month MIBOR + 0.3%** (taking into account the 0.2% commission by the intermediary bank).

This way:

- **X** will effectively borrow at **6-month MIBOR + 0.3%** through the swap (lower than its original rate of 6-month MIBOR + 0.2%).
- **Y** will effectively borrow at **9.8% fixed** through the swap (lower than its original rate of 10.5%).

Step 5: Conclusion

By entering this swap:

- **X** receives a lower floating rate than it would have obtained in the market (6-month MIBOR + 0.3% instead of 6-month MIBOR + 0.2%).
- **Y** receives a lower fixed rate than it would have obtained in the market (9.8% instead of 10.5%).

Thus, the swap makes both companies better off compared to their original borrowing options. The intermediary bank earns a **0.2% commission**, and the swap is structured to be equally attractive to both X and Y.

5.	a.	Explain economic exposure.
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Answer:

Economic exposure refers to the risk a company faces due to unexpected changes in exchange rates, which can affect its future cash flows, market value, and overall competitiveness. Unlike transaction exposure, which focuses on the impact of exchange rate changes on specific contracts, economic exposure looks at the broader effect of currency fluctuations on a company's long-term financial performance. This can include changes in revenues, costs, or the value of assets and liabilities, and it often arises from a company's international operations, including sales, production, and sourcing in different currencies. Economic exposure can impact a company's competitive position and market share in both domestic and international markets.

	b.	Briefly discuss the factors affecting foreign exchange rate.
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Answer:

1. Interest Rates
2. Inflation Rates
3. Economic Performance
4. Political Stability
5. Market Sentiment and Speculation
6. Balance of Trade
7. Government Intervention

	c.	An Indian firm has imported machinery worth MYR 1.5 million from Malaysia, which has to be paid after 3 months. The current exchange rate of MYR is ₹16.00 spot and 3 months forward is ₹16.50. What should the company do if MYR will settle at i). Rs 17.00 and, ii). Rs16.20 after 3 months.
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Answer:

- **Scenario i (MYR settles at ₹17.00):** The company should **enter into the forward contract** at ₹16.50 to lock in the exchange rate. This will result in a payment of ₹24,750,000, which is better than paying ₹25,500,000 if they don't hedge.
- **Scenario ii (MYR settles at ₹16.20):** The company should **not enter into the forward contract** and instead pay at the spot rate of ₹16.20. This will result in a payment of ₹24,300,000, which is better than paying ₹24,750,000 with the forward contract.

Thus, the company should **hedge** if MYR strengthens to ₹17.00, and **avoid the hedge** if MYR weakens to ₹16.20.

6. a. Distinguish between foreign portfolio investment and foreign direct investments

Answer:

Aspect	Foreign Portfolio Investment (FPI)	Foreign Direct Investment (FDI)
Definition	Investment in financial assets like stocks, bonds, without control	Investment in a company or asset with control ($\geq 10\%$ ownership)
Control	No control over the company	Direct control or influence over the company
Investment Horizon	Typically short-term	Long-term investment focused on growth and operations
Risk	Lower risk due to liquidity and easy exit	Higher risk due to long-term commitment and business challenges
Capital Flow	Involves liquid assets like stocks and bonds	Involves capital in physical assets like factories and infrastructure
Impact on the Economy	Contributes to market liquidity	Contributes directly to economic growth, employment, and infrastructure

b. Briefly explain the various internal hedging strategies for managing foreign exchange risk.

Answer:

1. Natural Hedging
2. Currency Netting
3. Leading and Lagging
4. Forward Contracts (Internal)
5. Foreign Currency Accounts
6. Currency Diversification

c. A Company Will need to buy after 4 months a forward rate agreement from a bank to borrow for 3 months. The 4/7 FRA is quoted at 6.5. what will be the company do it after 4 months, the rate
a). Rises to 7%
b). Falls to 6%
Remains at 6.5%. The following is planned for \$10,00,000.

Answer:

Scenario	Action	Benefit/Loss
a) Rate rises to 7%	The company borrows at 6.5%, saving on interest	Benefit: \$50,000 savings
b) Rate falls to 6%	The company borrows at 6.5%, incurring extra cost	Loss: \$50,000 additional cost
c) Rate remains at 6.5%	The company borrows at 6.5%, no change	No benefit or loss

In conclusion, the company will benefit if the rate rises, incur a loss if the rate falls, or break even if the rate remains unchanged.

7. a. Explain the International Monetary system

Answer:

The **International Monetary System (IMS)** refers to the set of rules, institutions, and agreements that govern international financial transactions, exchange rates, and the movement of currencies between countries. It provides the framework for exchange rate stability, facilitates global trade and investment, and ensures orderly international payments. The IMS aims to create a stable environment for the exchange of currencies and international trade.

b. A US MNC is planning to install a manufacturing unit to produce 5 lakh units of an automobile component in India. The plant would cost Rs 50 million. The plant is expected to have a useful life of 5 years with rupees 10 million as salvage value. The

		MNC would follow a straight line method of depreciation. The firm also need Rs 5 million as working capital. Selling price and variable cost per unit will be Rs 70 and Rs 20 respectively. Additional fixed cost p.a. are estimated at rupees 2 million. The MNC will be subjected to 40% tax rate in India, and the required rate of return is 15%. It is forecasted that the rupee will depreciate at US \$3% p.a. with the initial exchange rate of Rs 48/\$. Accordingly, the forecasted exchange rates for the next five years are 49.44, 50.92, 52.45, 54.02, 55.64 respectively. Advise the MNC regarding the feasibility of the proposal.
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Answer:

- **Initial Investment:** Rs 55 million (including Rs 50 million for the plant and Rs 5 million for working capital).
- **Annual Operating Cash Flow (OCF):** Rs 17 million per year.
- **Depreciation:** Rs 8 million annually (straight-line method).
- **Exchange Rates:** The rupee is expected to depreciate by 3% annually, with forecasted rates for the next 5 years.
- **Tax Rate:** 40% in India.
- **Required Rate of Return:** 15% annually.

Key Calculations:

- **Annual Operating Cash Flows (in USD):**
 - Converted OCFs from INR to USD for the next 5 years using the forecasted exchange rates.
- **Salvage Value:** Rs 10 million, converted to USD at the Year 5 exchange rate.
- **Net Present Value (NPV):** After discounting the cash flows and salvage value, the NPV of the project is calculated as **\$78,441**.

Conclusion:

The project has a **positive NPV of \$78,441**, indicating that it is **financially feasible**. The MNC should proceed with the investment in India as it will generate value and meet its required rate of return.

	c.	ABC House Ltd manufactures orange marmalade in England. It is the wholly owned subsidiary of XYZ Inc. of USA. The functional currency for ABC is the pound sterling, which currently sells at \$1.5000/£. The reporting currency for XYZ is the US\$. Nonconsolidated financial statements for both ABC and XYZ are as follows					
		Liabilities	XYZ	ABC	Asset	XYZ	ABC
		Current liabilities	\$22,000	£4000	Cash	\$8000	£2000
		5year term loan		£4000	Account receivable	\$10,000	£4000
		Capital stock	\$9000	£2000	Inventory	\$8000	£2000
		Retained earnings	\$9500	£4000	New plan	\$10,000	£6000
					Investment	\$4500	
			\$40,500	£14,000		\$40,500	£14,000
		a. Prepare a consolidated balance sheet for X, YZ Limited					
b. What is ABC limited accounting exposure in dollars? Use the current rate method for calculation							

Answer:

Answer:

Consolidated Balance Sheet

Liabilities & Equity	XYZ Inc.	ABC House Ltd. (Converted)	Consolidated
Current Liabilities	\$22,000	\$6,000	\$28,000
5-year Term Loan	\$0	\$6,000	\$6,000
Capital Stock	\$9,000	\$3,000	\$12,000
Retained Earnings	\$9,500	\$6,000	\$15,500
Total Liabilities & Equity	\$40,500	\$14,000	\$67,500

Assets	XYZ Inc.	ABC House Ltd. (Converted)	Consolidated
Cash	\$8,000	\$3,000	\$11,000
Accounts Receivable	\$10,000	\$6,000	\$16,000
Inventory	\$8,000	\$3,000	\$11,000
New Plant	\$10,000	\$9,000	\$19,000
Investment	\$4,500	\$0	\$4,500
Total Assets	\$40,500	\$14,000	\$67,500

Net Accounting Exposure (in USD):

- **Assets Exposure:** \$25,500
- **Liabilities Exposure:** \$12,000
- **Net Exposure** = \$25,500 - \$12,000 = **\$13,500**

The **accounting exposure** of ABC House Ltd. in USD is **\$13,500**, meaning that changes in the exchange rate will affect the value of ABC's assets and liabilities by this amount when consolidated with XYZ Inc.'s financial statements.

8

Nihal Corporation is a US based software consulting firm, specializing in financial software for several fortune 500 clients. It has offices in India, Europe and Australia. In 2023 Nihal Corporation required £1,00,000 in 180 days, and had many options to hedge the risk.

If analysts developed the following information, which was used to assess the alternative solutions

Current spot rate of 1£ is \$1.5

180 days of forward rate is \$1.48

A call option on £ that expires in 180 days has an exercise price of \$1.49 and a premium of \$0.03

A put option on £ that expires in 180 days has an exercise price of \$1.5 and a premium of \$0.02

Inverse rates are as below

	UK	US A
180 days. deposit rate	4.5%	4.5%
180 days borrowing rate	5.1%	5.1%

The future's portrait in 180 days were forecasted as follows

Possible outcome	\$1.44	\$1.46	\$1.53
Probability	0.20	0.60	0.20

Analyse the position of the company when

1. It is hedged.
2. Hedging with forward contract.
3. Hedging with buying and calling option.
4. Hurting with selling a put option

Answer:

Hedging Strategy	Expected Payment (\$)
No Hedging	\$146,000
Forward Contract	\$148,000
Call Option	\$149,200
Put Option	\$152,600

Recommendation

- **No Hedging** is the least expensive but carries the highest risk due to exchange rate fluctuations.
- **Forward Contract** provides a guaranteed rate at a slightly higher cost.
- **Call Option** offers flexibility but incurs additional premium costs, making it less attractive unless the spot rate exceeds \$1.49 significantly.
- **Put Option** results in the highest cost and is not beneficial for hedging liabilities.

Best Option: Use the **Forward Contract** to lock in a fixed rate and minimize exchange rate risk.