Currency Derivatives

Indian Currency Market

- Daily average turnover of Indian OTC/Futures market stands at USD 67 Billion INR is fully convertible on the current account but not on the capital account.

- Participants:
  - Corporate / SME having commercial exposure
  - Authorized Dealers viz Banks Cat 1
  - Central Bank - RBI
  - Individual Retail Traders
  - Money Changers

- Flows Driving the Currencies:
  - Trade and Capital Flow
  - Imports by Oil Marketing Companies
  - Remittance by NRIs
  - Investment by Offshore Institutions in India & Indian Investments Offshore
  - FDI & FII flows

What are Currency Derivatives?

- FUTURES: An agreement between two parties to buy or sell a standard quantity of currency at a certain time in future at a predetermined price on the floor of an organized futures exchange.

  Future Contracts are special types of forward/OTC contracts in the sense that futures are standardized exchange traded contracts.

- OPTIONS: An option is a contract between a buyer and a seller that gives the buyer of the option the right, but not the obligation, to buy or sell a specified asset (underlying) on or before the Options expiration time, at an agreed price (the strike price).

- A call option gives the buyer of the option the right to buy the underlying asset by a certain date for a certain price.
- A put option gives the buyer of the option the right to sell the underlying asset by a certain date for a certain price.

  If the buyer of option chooses to exercise his right, the seller is obliged to sell or buy the asset at an agreed price.

Contract specification

Underlying	USD/INR	EUR/INR	GBP/INR	JPY/INR
Exchange	NSE and MCX-SX	NSE and MCX-SX	NSE and MCX-SX	NSE and MCX-SX
Trading Hours	09:00 AM - 05:00 PM	09:00 AM - 05:00 PM	09:00 AM - 05:00 PM	09:00 AM - 05:00 PM
Contract Lot Size	Minimum lot Size = USD 1000	Minimum lot Size = EUR 1000	Minimum lot Size = GBP 1000	Minimum lot Size = YEN 100000
Tick Size (Minimum Price Fluctuation)	Re. 0.0025 or 0.25 paisa	Re. 0.0025 or 0.25 paisa	Re. 0.0025 or 0.25 paisa	Re. 0.0025 or 0.25 paisa
Margin	(As dictated by the exchange)	(As dictated by the exchange)	(As dictated by the exchange)	(As dictated by the exchange)
Calendar Spread	Rs. 600/- per contract	Rs. 700/- per contract	Rs. 1600/- per contract	Rs. 700/- per contract
Price Quotation	INR per USD	Rs. per EUR	Rs. per GBP	Rs. per 100 YEN
Tenor of Contract	Maximum of 12 months	Maximum of 12 months	Maximum of 12 months	Maximum of 12 months
Available Contracts	Monthly	Monthly	Monthly	Monthly
Settlement Mechanisms	INR	INR	INR	INR
Settlement Reference Rate	RBI Reference Rate	RBI Reference Rate	RBI Reference Rate	RBI Reference Rate
Final Settlement Date	2 days prior to Last working day of the month	2 days prior to Last working day of the month	2 days prior to Last working day of the month	2 days prior to Last working day of the month

Practical use of Currency Derivatives

- Hedge

A transaction in which an end user (Exporter/ Importer) seeks to protect a position or anticipated position in the spot market by using an opposite position in derivatives is a Hedge Transaction.

- Speculation

Buying or selling of a contract by taking view on the market, with a motive of profit from anticipated price movement.

- Arbitrage

Arbitrage means earning risk-free profits by simultaneously buying and selling identical or similar instruments in different markets.

Portfolio in Hedging

Participant	Risk	Underlying Position	Hedging Position
Importer	Currency of Import will strengthen	Buyer of Currency of Import	Long in Currency of Import
Exporter	Currency of Export will weaken	Seller of Currency of Export	Short in Currency of Export

How to hedge one's position?

Hedging Strategies - Exporter

Hedgers are the people who are exposed to risk due to their normal business operations and would like to eliminate/minimize their risk.

Illustration:

Hedging currency risk using Futures

An exporter having receivables of USD 5,00,000 on 30th March is exposed to the risk of Dollar depreciation

Hedge Strategy :	Spot 26Mar		Future
	Today	46.78	47.3000

Sell 500 Lots USDINR Future contracts of 26th March at 47.3000

On 26th March, If spot is 43.45

Sell 5,00,000 USD in OTC @ 43.45 and

Buy 500 USDINR Future Contracts Of March expiry @ 43.4500,

Receivables in Spot Market: Rs. 2,17,25,000 (500000*43.45)

On 26th March	Spot	P/L in Futures	Receivables in Spot	Net receivables
IF	43.45	1925000	21725000	23650000
IF	48.75	(-725000)	24375000	23650000

So if rupee moves either way corporate is hedged against currency fluctuation and his export value is fixed at 47.30

Hedging Strategies - Exporter

Illustration: Hedging currency risk using Options

Purchased PUT option:

The spot price of USDINR on 2nd November is 45.50 per USD. An Exporter is bearish on USDINR. He buys a put option with a strike price of 45.50 at a premium of 30 paisa expiring on 31st December. One option contract is for 1000 US dollars.

On Expiration

- If the USDINR price is below 45.50, the call is **in the money** and Exporter will exercise the option.

- On the contrary,

if the USDINR pair rises above 45.50, the call is **out of money** and Exporter will not exercise the option and the maximum loss will be equal to the premium paid.

- If the USDINR is in range 45.50, call is **at the money** and he will not gain or lose any amount.

Hedging Strategies - Importer

Illustration: Hedging currency risk using Futures

An Importer having payments of USD 5,00,000 due on 26th March is exposed to the risk of Dollar depreciation

Hedge Strategy :	Spot	26March Future
Today	45.50	45.7000

Buy 500 Lots USDINR Future contracts of 26 March at 45.7000

On 26 Mar Spot	P/L in Futures	Deliverables in Spot	Net Deliverables
44.50	-6,00,000	22250000	22850000
46.50	(5,00,000)	23250000	22850000

So if rupee moves either way corporate is hedged against currency fluctuation.

Hedging Strategies - Importer

Illustration: Hedging currency risk using Options

Purchased Call Option:

An Importer has payments to be made in USDINR on 20th September. The spot price of USDINR on 2nd July is 45.50 per USD.
He buys a call option with a strike price of 45.50 at a premium of 0.30 expiring on 30th September.
On 20th September – the remittance is to be executed

- If USDINR price is above 45.50, the call is in the money and Importer will exercise the option, and the difference in spot and strike price will be payable to importer. Hence hedged at 45.50.
- If USDINR price falls below 45.50, the call is out of money and Importer will not exercise the option and the maximum cost will be equal to the premium paid i.e. 30 paisa per USD which he can always price while initiating the purchase contract with supplier and include the same in his cost of Imports.
- If the USDINR is at 45.50, call is at the money and he will not gain or lose any amount thus he will only incur the cost the extent of premium paid initially.

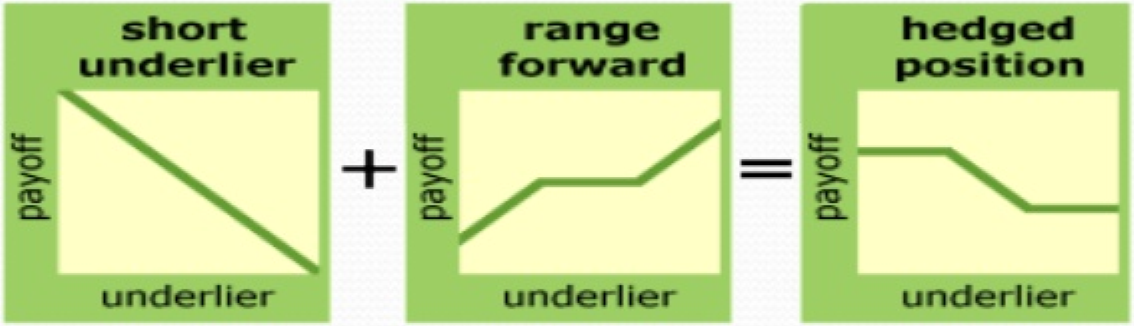
Thus he has the fixed the value of his import obligations as well as managed to fixed the cost of hedging. Thus hedging with options enables importer to forecast his short term capital requirement efficiently

RANGE FORWARDS:

- A range forward is a costless tool used to hedge a long/short position in an underlying currency. The name "range forward" is used because the hedge is used in lieu of a simple forward hedge.

- Unlike the forward hedge, which locks in a specific price for the underlying currency, the range forward locks in a “price range” for the underlying currency. In this way, the holder participates in small moves in the underlying currency while being protected from larger moves.

- Similar to a forward contract, a range forward contract provides 100% protection against unfavorable currency fluctuations while allowing limited participation in favorable currency rate market movements.



** Underlier: Underlying Currency*

Characteristics of Range Forwards

Advantages of Range Forwards:

- Usually structured with no upfront premium
- Provides full protection (a floor) against adverse currency movements
- Allows participation in favorable currency moves up to a pre-determined level (a cap)

Considerations for when to use a range forward contract:

- Floor is less attractive than the forward rate
- Participation in favorable market movement is limited

Who can benefit from using a range forward contract?

- Importers looking to reduce the cost of foreign payables
- Exporters looking to increase the value of foreign currency receivables
- Companies that need to protect their budget at a defined rate, while benefiting from favorable currency moves
- Companies that need to accommodate different views on currency direction yet still meet hedging requirements
- Companies that want to take advantage of positive currency fluctuations but do not want to pay a premium upfront

** Floor: Base Price of the Range Selected*

** Cap: Upward Price of the Range Selected*

Example of Range Forwards

E.G: An Exporter is expecting USDINR remittance on 20th August 2011, hence it is exposed to the risk of Dollar depreciation . A range forward of 44.75 floor and 45.00 cap 26 AUG 2011 expiry. On the day of remittance received in Bank, the final effective rate will be:

USDINR SPOT	PAY OFF from Range Forward	Net Price of remittance
44.0000	0.7500	44.7500
44.2500	0.5000	44.7500
44.5000	0.2500	44.7500
44.7500	0.0000	44.7500
45.0000	0.0000	45.0000
45.2500	-0.2500	45.0000

Derivative Classes – Exporters View

ATTRIBUTE	BANK FORWARDS/ OTC	EXCHANGE FUTURES	PLAIN VANILLA OPTIONS	RANGE FORWARDS
STRATEGY	Book Forwards	Sell Futures	Buy Put	Two Option Combination
PRICE MECHANISM	Selected Forwards Price	Executed Futures Price	Executed Strike Price	Selecting a Range
PLATFORM	OTC/Banks	Exchange Traded	Exchange Traded	Exchange Traded
DISADVANTAGE	Banks driven; Opportunity Cost Loss as opp. direction movement is not managed	Opportunity Cost Loss as opposite direction movement is not managed	Premium paid in terms of Loss	None (Upside/ downside movement of the currencies is managed)
ADVANTAGE	Easier to understand	Easier to understand & apply	Limits adverse movements to premium loss	No upfront premium; Enables selecting and trading within a range. Thus limiting losses to zero or negligible.
RISK MITIGATION	Moderate	Moderate	Moderate	High

Facts about OTC/OPTIONS:

- Annex to A.P (DIR Series) Circular No.32 dated December 28, 2010 don't allow companies below Rs 200 Cr net worth to enter into any option products in OTC .

2. Companies having access to options cannot write/sell options OR cannot be net receiver of premiums Example : An exporter cannot sell CALL OR Importer cannot sell PUT option with the BANK

3. Derivatives like Interest rate & Currency swaps may have interest payments to be received /paid at some intervals and if those need to be hedged , RBI doesn't permit the same .

4. Proceeds (profits booked) before maturity of Forwards/Cancellation are only passed to the clients on the expiry of contract.
5. There is mandate for submitting the underline documents to Bank against all the foreign exchange contracts within 15 days of booking.

6. Requirement of underlying while dealing with bank involves too much of process, human involvement, compliance and reporting which impacts to cost.

7. In the event of non-submission of underline documents within 15 days, the contract may be cancelled, and the exchange gains are not passed on. If it is repeated on more than three occasions in a financial year, booking may be allowed only against production of the underlying documents at the time of booking the contract

* Sources : RBI Annex to A.P (DIR Series) Circular No.32 dated December 28, 2010]

Futures v/s Forwards

Currency	Futures	Forwards
Type of Contracts	Standardized	Customized
Price transparency	High, Real time rate	Low, Over the phone
Acceseebility	Online / Offline modes	Offline/ OTC
Underlying exposure	Not Required	Required
Margin Requirement	3.00%	Non standardized may vary from 8-12 %
MTM Settlement	Daily Settled	NA
Settlement	Net settled in INR (Cash)	Physical Settlement

MTM Calculation:

Consider a client who buys on day 1 the contract at 46.5000

- The settlement price on day 1 is 46.0000
- Mark to market :difference between the two multiplied by the number of contracts and the contract multiplier
- The contract is carried forward at the settlement price
- The payment of profit or loss happens the next day
- The client squares up at 46.6500 on day 5
- No open positions and no mark to market

Day	Buy Qty in Contracts	Price	Closing Price	Profit / Loss
1	1000	46.5000	46.0000	-500
2	1000	46.0000	46.7500	750
3	1000	46.7500	46.4500	-300
4	1000	46.4500	46.6500	200
5	1000	46.6500	46.6500	0

Taxation

- Finance Act, 2005 has amended section 43(5) so as to exclude transactions in derivatives carried out in a “recognized stock exchange” for the purpose transactions entered into by hedgers and stock exchange members in course of jobbing or arbitrage activity were specifically excluded from the purview of definition of speculative transaction..

- This implies that income or loss on derivative transactions which are carried out in a “recognized stock exchange” is not taxed as speculative income or loss.

- Thus, loss on derivative transactions can be set off against any other income during the year. In case the same cannot be set off, it can be carried forward to subsequent assessment year and set off against any other income of the subsequent year. Such losses can be carried forward for a period of 8 assessment years.

- NO Securities Transaction Tax (STT)
- No Turnover Tax

Crosses

Many corporate have exposures to currencies not involving INR component like EURUSD, GBPUSD, USDJPY. Hedging exposure in different currencies is also possible through currency Futures.

CASE: An Exporter is expecting remittance in USDINR and also expecting an import payment to be made in EURINR, hence he is exposed to risk of EURUSD appreciation.

EURUSD hedge will be the result of BUY EURINR and SELL USDINR transactions, and hence can fix the price of 1.425 for his transactions.

Currency	EURINR		USDINR		EURUSD
Price	63.4125	X	44.5	=	1.425
Strategy	BUY		SELL		BUY

Likewise one can hedge their exposure in currencies other then INR

Position Limit

	Clients	Trading Members	Banks
USDINR	Higher of 6% of total open interest or USD 10 million	Higher of 15% of the total open interest or USD 50 million	Higher of 15% of the total open interest or USD 100 million
EURINR	Higher of 6% of total open interest or EUR 5 million	Higher of 15% of the total open interest or EUR 25 million	Higher of 15% of the total open interest or EUR 50 million
GBPINR	Higher of 6% of total open interest or GBP 5 million	Higher of 15% of the total open interest or GBP 25 million	Higher of 15% of the total open interest or GBP 50 million
JPYINR	Higher of 6% of total open interest or JPY 200 million	Higher of 15% of the total open interest or JPY 1000 million	Higher of 15% of the total open interest or JPY 2000 million