5. Derivatives

5.1 What is derivative?

⇒ A derivative has no independent value; its value is derived from an underlying asset.

⇒ Underlying can be: securities, commodities, bullion, currency, bullion interest rates, indices, livestock, etc

⇒ As per SCRA (Securities Contracts Regulation Act), derivative includes:

⇒ A security derived from another security (shares, loans, risk instruments, etc)

⇒ A contract whose value is based on price / index of underlying securities.

⇒ Derivatives were included in definition of securities Laws (Second Amendment) Act 1999.

5.2 Types of derivative contracts

1. Forward Contracts

⇒ Customized contract between two entities

⇒ Settlement on a future date at a pre-agreed price.

2. Future Contracts

=> Agreement between two parties to buy or sell an asset at a certain time in future at a certain price

=> Exchange-traded, standardized forwards

=> Example: Nifty Futures

3. Options

=> Contract giving right but not obligation to buy/sell

=> Buyer pays premium (upfront)

=> Seller (writer) receives premium and must fulfil obligation

=> Call Option → Right to buy

=> Put Option → Right to sell

4. Swaps

Exchange of cash flows (e.g interest rate swaps)

5. Warrants

=> Long dated options (maturity > 1 year)

=> Majority of options traded on exchanges have maxium 9 months maturity

=> Mostly trader Over-the-Counter

5.2.1 American, European and Bermuda Options

⇒ European Option → Exercised only on expiry

⇒ American option → Exercised anytime up to expiry

⇒ Bermuda option → Combination of American and European options. Exercised at date of expiration and certain date between the purchase date and the date of expiration, but not all days

5.2 Option Premium

⇒ At the time of buying option contract, the buyer has to pay premium

⇒ Upfront cost paid by buyer to acquire the right to buy or sell.

5.3 Derivative Products on NSE

Interest Rate Derivatives

⇒ Derived from one or more interest rates, prices of interest rate instruments or interest rate indices

⇒ Interest Rate futures (IRF) on

→ Government of India bonds (4-15 yrs maturity)

→ 91 days treasury bills

→ MIBOR - based futures - based on overnight call rate

⇒ Interest Rate Option (IRO) whose value based on rupee interest rate (or) interest rate instruments

Bond Futures

Based on government of India securities

Equity Derivatives

Future & options are

i] Nifty 50

ii] Nifty Bank

iii] Individual Securities

a) Nifty Midcap Select

b) Nifty Financial Services

c) Individual Securities

Currency Derivatives.

Currency derivatives of NSE provides trading in derivative instrument like

⇒ Currency futures & Options on 4 INR pairs: USDINR, EURINR, GBPINR, JPYINR

⇒ Currency futures & Options on 3 cross currency pairs: EURUSD, GBPUSD, USDJPY

Derivate Products on NSE

⇒ NVIX → Future based on India's Volatility Index

⇒ Some global indices are available

5.4 Commodity Exchange

⇒ Organized market place for commodities trading

⇒ Ensures fair price discovery and competition

⇒ Examples in India:

→ Multi Commodity Exchange of India (MCX)

→ National Commodity & derivatives Exchange (NCDEX)

→ Indian Commodity Exchange (ICX)

⇒ Regulated by SEBI

5.4.1 Commodity definition

⇒ All goods of agricultural, mineral or fossil orgin allowed for future trading

⇒ Excludes money, securities, actionable claims

5.4.2 Commodity derivatives market

⇒ Derivative where underlying

eg:

→ Agri products: wheat, cotton, soybeans - NCDEX

→ Metals: gold, silver - MCX

→ Energy: crude oil, natural gas - MCX

→ Diamond derivatives - diamond, steel, rubber - ICEX

5.4.3

Financial Derivative	Commodity derivative
Underlying = equity, index, interest rate, currency	Underlying = agri, metals, energy
Mostly cash settled	Often physically settled → need warehouse
No quality variation	Quality varies (grades)
Not bulky assets	Bulky assets (storage needed)