The Derivatives market in India commenced in June 2000 when the first index future contracts were introduced.

The total turnover increased from Rs 4 bn in the year 2001-2002 to Rs 1687 bn in the year 2006-2007

Four types of derivative instruments are available in India equity markets - Index Futures, Index Options, Stock Futures and Stock Options. Among these, Index Futures are most active and have the highest turnover.

Derivatives

A derivative is an instrument whose value is derived from the value of one or more basic variables called bases (underlying asset, index, or reference rate) in a contractual manner. The underlying asset can be equity, commodity, forex or any other asset. The major financial derivative products are Forwards, Futures, Options and Swaps. We will start with the concept of a Forward contract and then move on to understand Future and Option contracts.

Forward Contracts

A forward contract is an agreement to buy or sell an asset on a specified date for a specified price. The main features of this definition are:

- There is an agreement
- Agreement is to buy or sell the underlying asset
- The transaction takes place on a predetermined future date
- The price at which the transaction will take place is also predetermined

Let us illustrate it with an example. Suppose an IT company exports its services to US and hence earns its revenue in Dollars. If it knows it would receive a payment of $1 million in six months’ time, it cannot be sure as to what would be the Rupee value of this $1 million after six months. Assuming that the current rate is Rs 43/$, the value as per current rate would be Rs 43 million. Now suppose the actual forex rate after six months is Rs 37/$ and hence the company receives Rs 37 million which is less by almost 14% that the current value. In the reverse scenario of rupee depreciating vis-à-vis the dollar, a rate of Rs 45/$ would lead to a gain of Rs 2 million. Hence, the company is exposed to currency risk. To hedge this risk, the company may sell dollar forward i.e. it may enter into an agreement to sell $1 mn after 6 months at a rate of Rs 43/$. Note that it satisfies all the conditions of a forward contract.

One pre-requisite of a forward contract is that there should be another party which is willing to take a reverse position. For example, in the above case we may sell dollars forward only if someone is willing to buy it after six months. An importer who purchases goods and hence makes payment in dollars might need to hedge his currency risk by being the other side of this contract.
Use of forward contract to hedge currency risk

There are three types of participants in the derivatives market - Speculators, Hedgers and Arbitrageurs.

Speculators take positions with a view to gain if the prices move in the direction they have bet on.

Hedgers use derivatives to protect their other positions.

Arbitrageurs make use of market mispricings to make risk-less profits.

Future contracts are settled in two ways - Either by taking a reverse position in the same contract or by holding the position till expiry and then settling the position by delivery of the underlying or by cash settlement.

Future Contracts

A future contract is effectively a forward contract which is standardized in nature and is exchange traded. Future contracts remove the lacunas of forward contracts as they are not exposed to counterparty risk and are also much more liquid. The standardization of the contract is with respect to

- Quality of underlying
- Quantity of underlying
- Term of the contract

Let us understand it with the help of an illustration of a Reliance Future contract. What does the statement - “I have bought 1 lot (250 shares) of Reliance July Future @ Rs 700” mean in theory? It means that the person has agreed to buy 250 shares of Reliance Industries on 26th July 2012 (the expiration date) at Rs 700 per share. Here,

- The underlying is the shares of Reliance Industries
- The quantity is 1 lot, i.e. 250 shares
- The expiry date is 26th July 2012 (last Thursday of July), and
- The pre-determined price is Rs 700 (and is called the Strike Price)

If the actual price of Reliance is Rs 800 on the settlement day (26th July), the person buys 250 shares at the contracted price of Rs 700 and may sell it at the prevailing market price of Rs 800 thereby gaining Rs 100 per share (Rs 25,000 in total). On the other hand if the price falls to 650 he loses Rs 50 per share (Rs 12,500 in total) as he has to buy at Rs 700 but the prevailing market price is Rs 650.
Option Contracts

An option contract is a contract which gives one party the right to buy or sell the underlying asset on a future date at a pre-determined price. The other party has the obligation to sell/buy the underlying asset at this pre-determined price (called the strike price). The option which gives the right to buy is called the CALL option while the option which gives the right to sell is called the PUT option. Let us consider a few examples:

i) Buyer of Nifty July Call option of strike 4500: It gives the right to buy Nifty at 4500

ii) Buyer of Infosys July Put option of strike 1550: It gives the right to sell Infosys at 1550

iii) Seller of Nifty July Call option of strike 4500: The seller has the obligation to sell Nifty at 4500

iv) Seller of Infosys July Put option of strike 1550: The seller of the Put option has the obligation to buy Infosys at 1550

It is to be noted that the right always remains with the buyer of the option while the seller of an option always has the obligation. In return, the buyer pays the seller a premium for getting the right. This premium is the maximum possible loss for the buyer and the maximum possible gain for the seller.

We will discuss options in much greater details in later publications.

Swaps

A swap is a derivative in which two counterparties agree to exchange one stream of cash flows against another stream. Swaps can be used to hedge interest rate risks or to speculate on changes in the underlying prices. Since swaps are not used in equity markets in India, we would not go into further details of swaps.

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