Chapter 1 Briefing

Derivative
Derivarive can be defined as a financial instrument whose value depends on value of other more basic underlying variables. Like features in a neural network

Derivative exchange market
A regulated centralized platform where financial contracts, **derivatives (futures and options)**, are bought and sold. Unlike traditional stock exchange, on derivative exchange, we trade contracts that "derive" their value from an underlying asset, such as gold or oil. Derivative exchange acts as a middleman.

Exchange Traded vs Over the counter (OTC)
Ecvhange traded is regulated exchange (NSE, CME), over the counter is private negotiation.

Forward contracts
Agreement to buy or sell an asset at a certain time in future for a certain price. Over the counter market. *long position* assumend by the buyer of the asset. *short position* assumend by the seller of the asset. These are used to hedge foriegn currency risks.

Payoffs from Forward contracts
Payoff from a long position in a forward contact on one unit of asset is

$$S_T - K$$

where K is the delivery price and S_T is the spot price.
Similarly payoff from a short position is

$$K - S_T$$

Spot contracts
agreement to buy or sell an asset today.

Futures contracts
Unlike forward contracts, future contracts are normally traded on an exchange.

options
Traded both on exchanges and otc markets.

put options
Gives holder rights to sell as the *exercise price* or *strike price*. The date in contact is known as *expiration date* or *maturity*.

call options
Gives the holder right to sell the underlying asset by a certain date for a certain price.

In exchange trade equity option marker, one contract is usually an agreement to buy or sell 100 shares. It should be noted that an option gives holder the right to do something. The holder does not have to exercise this right. This is how options are different from futures.

TYPES OF TRADERS

Hedgers

Hedgers reduce risks with forward contracts and options. They use them as a type of inseurance

speculators