Forward Contracts & Futures Contracts.

PAPER –CC 303 MODULE -II

FINANCIAL ENGINEERING

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SETTLEMANT OF THE FORWARD CONTRACT

- Settlement refers to the extermination of the obligations created under a forward contract. On the date of maturity there are two possible ways of settling an obligation.
- **By the delivery of the Asset and the Consideration** : For example , if an exporter had sold €10000 to a bank , 6-month at Rs 66/ € (say) , then at maturity , the contract would be settled at the delivery of € 10000 by the exporter to the bank , who would pay the exporter Rs. 6,60,000 .
- **By entering an Offsetting contract opposite to the original contract at maturity or earlier , at a price prevailing then.:**

Example: An exporter having sold € 10000 at 6-month forward at a price of Rs 66/ € , may after three months decide to buy € 10000 , 3-month forward at Rs 66/ € per Euro . However, this is subject to the acceptance of the bank

Settlement by delivery

- At t = 0 (Initiating the forward contract) At t =T (Settlement of Contract)
- Buyer buys the asset forward at price P → Buyer

Mutual obligations

↓

ASSET ↑ CASH ↓

- Seller sells the asset forward at price P → Seller

Settlement by Cancellation

- It is done by entering a new contract that reverses the initial contract.
- The buyer of the initial contract can sell the asset at a new price P’ at a time prior to maturity or on maturity to another party or to another seller.
- Again the seller in the initial contract can buy or the asset from any party prior to, or upon maturity , at a new price.
- However the obligations decided on the first contract must fulfilled during the maturity. By mutual adjustment the exchange then reduces to the differential of the prices in the original and the offsetting contracts.

- The settlement by Cancellation may not be attainable for several reasons which can be----
- Legal reasons –The applicable law will make delivery essential .
- The underlying asset may not be tradeable.

FUTURES CONTRACT

- In the last two decades, the futures markets have experienced a remarkable growth all over the world in size, trading volume and acceptance by the business community. New contracts with new products along with entirely new possibilities in the futures markets have become the reality now. Futures trading were started in the mid-western part of the USA during 1970s, but today it is traded throughout the world, and 24 hours a day.
- A futures contract is similar to a forward contract in that it is an agreement that obligates the seller, at a specified future date, to deliver to the buyer a specified underlying in exchange for the specified futures price. The buyer of the contract is obligated to take delivery of the underlying, and the seller of the contract is obligated to deliver the underlying, although settlement may be with cash. Unlike forward contracts, futures contracts are normally traded on an exchange. As the two parties to the contract do not necessarily know each other, the exchange also provides a mechanism that gives the two parties a guarantee that the contract will be honoured.
- A futures contract is thus a modified version of a forward contract with the same fundamentals , i.e. ,promising settlement on expiry at a price fixed now.(R .Srivastava)
- As the contracts are traded on exchanges, they are liquid and it is possible for a buyer or seller to close out a position by taking the opposite side. In other words, the buyer of a contract can sell the same contract and the seller of a contract can buy the same contract.

DIFFERENCES BETWEEN FORWARD AND FUTURES CONTRACT

- Futures contracts are highly standardized whereas the terms of each forward contract can be privately negotiated.
- Futures contracts are traded on an exchange whereas forward contracts are traded over-the-counter.

Counter- party Risk

- In an agreement between two parties, there is always a risk that one side will renege on the terms of the agreement. Participants may be unwilling or unable to follow through the transaction at the time of settlement. This risk is known as counterparty risk.
- Forward Contracts are subject to high default risk, as the price scenario at maturity can be favourable to only one party. Futures being exchange traded nullify exchange risk. Thus one default may lead to another, thus setting in motion a chain reaction which can result in the collapse of the whole market.
- To reduce counterparty risk, the parties to a forward contract evaluate the default risk of the other party before entering a contract. If the risk of default is significant, the parties may not agree to a forward contract. Again , one or both the parties may require a performance bond. A performance bond is a guarantee, usually provided by a third party, such as an insurance company, to ensure payment in case a party fails to fulfil its contractual obligations (defaults). As an alternative to a performance bond, collateral may be requested. Collateral refers to pledged assets. That is, if one party cannot fulfil its contractual obligations, the other party can keep the collateral as compensation.

FUTURES EXCHANGES : AN INTERMEDIARY

- Futures Contract have to be standardized if they are to be traded on an exchange.
- The presence of an exchange as an intermediary between buyers and sellers helps reduce counterparty risk. Counterparty risk cannot be eliminated completely, however, because there is always a remote chance that the exchange fails to fulfil its own contractual obligations. To protect itself against one of the parties defaulting, the exchange typically requires that parties to the contract deposit funds as collateral. The depositing of funds as collateral is called posting margin.
- The amount deposited on the day that the transaction occurs is called the initial margin. The initial margin should be sufficient to protect the exchange against movements in the underlying's price. The exchange sets the margin amount depending on the underlying's price volatility—the greater the underlying's price volatility, the higher the margin.

- Another way of reducing the counterparty risk for futures contracts is by marking to market daily. Marking to market means that profits or losses on futures contracts are settled at the end of every business day, which has the effect of resetting the contract price and cash flows to buyers and sellers. At the end of each day, the exchange establishes a settlement price based on the closing trades and determines the difference between the current settlement price and the previous day's settlement price.
- The buyer's and seller's margin accounts are adjusted to reflect the change in settlement price and whether it was to their advantage or disadvantage. Marking to market continues until the contract expires. If at any time the balance in an account falls below a pre-specified amount, the exchange will ask the customer to submit additional funds. If the customer does not do so, the futures position is closed. Daily marking to market reduces counterparty risk and administrative overhead for the exchange. The result is enhanced trading, increased liquidity, and reduced transaction costs on futures contracts.

STANDARDIZATION OF CONTRACT / PRODUCT.

- The Standardized terms of futures contracts consist of the underlying; size, price quotation and expiration date of the contract; and settlement.
- A number of different standardized contracts may trade for an underlying on an exchange, but standardization of futures contracts reduces the number of contract types available for the same underlying. Typically, each of the contracts is the same with respect not only to the underlying but also to size and settlement.
- Specifying the underlying in a futures contract includes defining the quality of the asset so that the buyer and seller have little room for confusion regarding pricing and physical delivery. Certain deviations from the default quality standards are permitted with adjustments in price.
- The contract specifies the delivery locations and the period within which delivery must be made. The size of a futures contract is set by the exchange to ensure a tradable quantity of adequate value.

DISTINCTION BETWEEN THE FUTURES AND THE FORWARDS

We will now summarize the differences between the futures contracts and the forward contracts which consists of the following :

- Trading ad Flexibility of Terms
- Liquidity
- Counter-party risks
- Transactions Costs
- Timing of the Cash Flows
- Settlement

References :

- Options Futures and Other Derivatives (Eighth Edn.): J. Hull
- Derivatives and Risk Management (Second Edn.) : R.Srivastava