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**Financial Derivatives**

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**Differences Between Futures and Forward Contracts**

Both these contracts provide for the insurance of price to buy or sell the underlying asset (shares) at the pre-specified strike price. With the help of these, one can hedge the risk arising from investment activities. But there are certain differences between these two:

**Table 01**

Point of Difference	Futures Contract	Forward Contract
<b>Underlying Asset Quantity</b>	This is specified by the concerned Stock exchange minimum quantity and its multiples are decided by the exchange in the form of lot size	This is specified by both the parties mutually quantity is decided by both the parties mutually
<b>Duration and value date exchange</b>	Stock exchange fixes the duration and value date	Parties decide these mutually
<b>Exchange</b>	These are traded on the stock exchange	These are traded on OTC exchange
<b>Regulation</b>	Regulated according to the rule of stock exchange	Regulated according to the rule of OTC exchange
<b>Nature</b>	These are standardised	These are customised
<b>Settlement</b>	Clearing house of the stock exchange plays a greater role	Mutually decided with the limits of OTC rules
<b>Square up</b>	It can easily be done without the agreement of the same counter party	It only be done when the same counter party agrees for it

**Similarity Between Futures and Forward Transaction**

Despite the differences between these two, there are certain similarities:

1. Derivatives product
2. Tool for hedging
3. Tool to speculate

1. **Derivative product** The futures and forward transactions are derivative products. The value of these two depends on the underlying asset. These generate a value according to the movement of prices of the underlying asset.

2. **Tool for hedging** Hedging is a mechanism to counterbalance or minimise risk arising from investment in securities. Under this, an investor executes different types of derivative transactions to eliminate or minimise risk. Both futures and forward transactions provide such benefit. Whenever an investor has made prior claim either to deliver or receive certain securities, he can counterbalance the risk of claim by entering into these transactions.
3. **Tool to speculate** Both these transactions provide an opportunity to speculate on the underlying asset. With the help of long position in these, one can gain when prices rise in the future. When prices decline, the short position creates value. Such opportunity is available at no extra cost.

### Differences Between Option and Futures/Forward Contract

Option, Futures and Forward Contract provide for the insurance of price to buy or sell the underlying asset (shares) at the pre-specified strike price. With the help of these, one can hedge the risk arising from investment activities, yet there are certain differences between these:

**Table 02**

Point of Difference	Option Contract	Future/Forward Contract
<b>Right</b>	Only buyer of the option has the right	Both the parties have right
<b>Risk</b>	Only for seller of the option	For both the parties
<b>Obligation</b>	Only for seller of the option	For both the parties
<b>Premium</b>	Buyer of the option is required to pay it upfront	None of the parties is required to pay for it
<b>Settlement</b>	It can simply expire without being exercised	Settlement is must; it never expires
<b>Nature</b>	It is pure hedging tool	It is not a pure hedging tool
<b>Margin</b>	Only the seller of the option is required to deposit margin	Both the parties are required to deposit the margin

### Interest Rate swap

Two parties agree to exchange interest obligation for a certain loan amount in this swap transaction. One party pays the interest obligation for the loan taken by another party, and later pays it for the loan taken by the second party. Generally, one party has fixed interest and the other has floating interest obligation. Following are the prerequisites for this swap transaction:

- Contrary objectives of the parties
- Comparative advantage
- Same currency and equivalent amount of loan

**Contrary objective** Interest rate swaps can be executed only when swapping parties have different objective in terms of rate of interest. One party wants to raise fixed rate loan and other, floating rate loan. Swap is possible due to this contrast in objectives of raising loan.

**Comparative advantage** To execute the swap transaction and benefit from it, comparative advantage of the parties is must. Both the parties must have advantage in each others' objective of raising the same loan; otherwise swap cannot be done.

**Same currency and equivalent amount** Plain Vanilla Swap can be done only when both the parties want to raise the loan in the same currency. At the same time, the amount of the loan is also the same, otherwise this kind of swap, in which only interest obligation is exchanged cannot be done.

In interest rate swap, two parties agree to exchange interest obligation for a certain loan

## Hedging/Risk Management Through Derivatives

In the trading of securities/derivatives an element of risk is always inherent. Risk is defined as chance of negative or low returns as compared to expectations. Hedging is a mechanism to counter balance or minimise such risk. Under this, an investor executes different type of derivative contracts with aim of either eliminating or minimising the risk. Hedging is like an insurance against price fluctuation, which might take place in future. Hedging can be of two types:

- Short Hedge
- Long Hedge

### Short Hedge

In short hedge, the investor sells a derivative product or creates an obligation to deliver underlying asset so that he has protection against declining prices. Investors who are likely to receive the underlying asset on some future date, do this hedging. Short hedging can be done with the help of any of the following mechanism:

- Hedging through option contract
- Hedging Through Futures contract
- Hedging through index futures

In short hedge, the investor takes a position in derivative product so that he has protection against declining prices

**Hedging through option contract** A short hedge can be created with the help of buying a put option so that buyer of the option is assured about receiving a certain price for the shares, which he is likely to receive in the future. For this protection of assured price, he has to pay a premium for buying the option contract. This combination is like a win-win strategy, as the investor will have gain, whether prices decline or rise in the future.

**Hedging through futures contract** Futures contract is a binding on both the parties. These can be used to protect against the risk arising from the investment made in securities. As soon as an investor has purchased certain securities, he has a chance of having gains in the future from price rise, but at the same time, he runs a risk of loss on account of decline in the prices. To cover up the expected loss due to price decline, the investor can enter into a short position in the same securities; this will protect him from the declining prices.

**Hedging through index futures** Index is the barometer of the market; it indicates the movement of share prices in the market. One can have protection against declining prices of shares held by him. This can be done as follows:

1. Investor has a long position in the shares
2. The investor enters into a short on index futures

This will provide a counter balance against the likely loss that may take place due to decline in prices in the future. If prices decline in the future, then long position will face loss, but the gain from short position in index future will counter balance such loss. On the contrary, if the market rises in the future, then long position will provide a gain and short position in index will result into losses. Thus, the investor is likely to have no profit- no loss situation.

### Long Hedge

Long hedge means creating protection against increasing the prices, which is likely to take place in the future. This type of hedging is created by an investor, who has commitment to deliver certain securities in the future or has short position in the securities. Risk can be eliminated or minimised by entering into a long position in the derivatives market. It can be done as follows:

- Hedging through option contract
- Hedging Through Futures contract
- Hedging through index futures

In long hedge, the investor takes a position in derivative product so that he has protection against rising prices

**Hedging through option contract** To hedge risk, the following combination of transactions is adopted:

- (a) Short position in the securities
- (b) A long position in call option

By doing this, the investor minimises his expected loss in the event of a bullish market. On the contrary, when the market happens to be bearish, he has a chance of having unlimited gains.

**Hedging through futures contracts** Under this, the risk from an increase in securities prices can be covered by taking the following combination:

- (a) A short position in the securities
- (b) A long position in futures contract in the same securities

The gain or loss will be completely depend upon the strike price and the price at which short position is created in the present; however, the risk due to price rise will get eliminated/minimised.

**Hedging through index futures contract** Risk arising from a general bullish trend in the market can be covered by creating a long position in index futures. It is done as follows:

- (a) A short position in the securities, which is represented in the index

(b) Long position in the index futures

Now, if the market shows a bullish trend, then the short position will result into losses, but long position will result into profits, providing a counter balance against losses of short position.

With the help of derivatives, a suitable combination with other commitments in the capital market can help in either eliminating risk or minimising it. The best hedging strategies can be created with the help of option contracts, since these not even protect against risk, but also provide an opportunity to have gains.

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**Books Recommended for Reading**

- 1. Security Analysis and Portfolio Management by Dhanesh Khatri, Macmillan Publishers India Ltd.**
- 2. Security Analysis and Portfolio Management by Punithavathy Pandian, Vikas Publishing House Pvt. Ltd., Noida -201301 (UP)**