

Derivatives

1. AN OVERVIEW

Derivative products were originally designed to help participants to hedge their price risks (or similar risks which arise due to volatility in instruments quoted in the market place). As the world has progressed, these products are used not only for hedging but also for trading or speculation and arbitrage. Derivative products have assumed huge importance in financial markets and their traded volumes in most cases are more than double the traded volumes in the underlying physical articles or instruments.

Derivative products are now available on a variety of underlyings (that on which derivatives are created) including commodities, interest rates, forex, equities and even weather. Financial markets have understood that any article that fluctuates can form a good underlying and that it need not be tangible (like an equity index) or be owned by any person (like weather).

Complexity of derivative products has also increased enormously as evident from the disasters which continue to dog these markets. Multi billion dollar enterprises also suffer huge losses from time to time either due to greed or loose controls or lack of understanding of the products or a combination of these and other factors.

Indian equity derivatives started in June 2000 and have now progressed to a level where derivative volumes are more than twice the underlying equity market on most days. Trading volumes exceed Rs. 8,000 crores on most trading days with a peak of almost Rs. 17,000 crores. Commodity markets have also started recently and generate daily volumes on Futures of more than Rs. 2,000 crores on most trading days. Interest rate and forex derivatives are not traded on exchanges but available to market participants through banks if they have an underlying exposure to these risks largely for hedging purposes. Interest Rate Derivatives though listed have not been popular and are planned to be re-introduced with some changes in the design of the contract.

Participants in the equity market are largely individuals, brokers, arbitrageurs and Foreign Institutional Investors. Domestic institutions and mutual funds are relatively less found in these markets except for a rather sudden burst of arbitrage funds in the Mutual Funds industry which are just making a beginning.

2. FUTURES

Equity futures can be freely bought and sold and are available on 3 Indices (Sensex, Nifty and CNX IT Index) and on 87 specific stocks at the moment. It is quite possible that this list is extended from time to time. Futures are 'cash settled' as per current regulations which means that a buyer or seller does not get or give delivery of the underlying stock. The participant instead receives or pays the difference between his entry price and exit price.

Futures expire on the last Thursday of every month and 3 monthly series are available at any point of time. Market liquidity is the best in the current month series and poor in the third month series. During the week of expiry, roll over of positions from the current series to the next series are frequent. Roll over will imply that the participant exits his current series position and takes a fresh position in the next month series simultaneously.

Futures allow bears as much leverage as bulls and 'shorting' the index or specific stocks as easy as going long. Both players pay an Initial Margin while entering into Futures positions and thereafter pay Mark to Market Margins on a daily basis so long as the position is open. While Initial Margins can be paid in cash, cash equivalents (bank guarantees, fixed deposits, government securities, debt securities, Treasury Bills) and specific equity securities, Market to Market Margins are required to be paid in cash alone. Both of these margins are to be paid within the next day after trading. Brokers have the right to insist on earlier payments also.

Futures positions are inherently risky for the buyer and the seller and most active participants would

have clear stop loss or other strategies to minimise losses.

3. **OPTIONS**

Options are relatively low risk products for the buyers. An option buyer pays a specific amount of premium (determined by demand and supply in the market and changing from moment to moment) in return for his right to participate in the upside (in the case of 'Call Options' above the strike price) or in the downside (in the case of 'Put Options' below the strike price).

Options are also 'cash settled' and hence the participants receive or pay their profits or losses in cash instead of receiving or delivering the underlying stock. Thus, if you buy a Reliance 540 Call Option and on the expiry day, Reliance closes at Rs 563, you will receive Rs 23 from the market. If you buy a TCS 1100 Put Option and TCS closes on the expiry day at Rs. 1,056, you will receive Rs. 44 from the market.

The 'limited loss unlimited profit' profile of the Option Buyer is matched with the reverse 'unlimited loss limited profit' profile of the Option Seller (called Option Writer conventionally due to sellers' practice in the olden days of writing the details of Options sold in their diaries and handing over written chits to the Buyers).

Option writing is an inherently high risk activity which new players should be naturally reticent about.

In the Indian market, volumes on Futures contracts account for more than 85% on most trading days with Options accounting for the balance 15%. Options rank slightly higher on complexity and the average day trader who dominates the Indian market shies away from paying premium and the attached risk in writing options. Low liquidity also dissuades large players leading to chicken or egg kind of situation.

4. **ACCOUNTING**

Accounting of Equity Futures and Options is based on the Guidance Note issued by the Institute. These guidelines are summarized below:

Accounting treatment of future contracts

- ***At the time of inception of contract***

Every person is required to pay initial margin determined by the Clearing Corporation/House before entering into the contract of either Stock Future or Index Future. Such initial margin payment shall be debited to the "Initial Margin – Index/Stock" under the head "Current Assets". If the initial margin is paid by way of collaterals like TDS, securities, Bank Guarantees etc. entries would be passed in memorandum Banks.

- ***At the time of Daily Settlement***

All future contracts are Marked to Market (MTM) on daily basis. This involves payment or receipts of difference in price fluctuation on daily basis. The amount of Marked to Market margin received/paid into/from such accounts should be debited or credited to "Marked to Market Margin Index/Stock Future Account" and will appear as a separate item as "Current Asset" or "Current Liabilities" as the case may be.

- ***Open interest as on Balance Sheet date***

At the year end appropriate provision shall be created by a debit to Profit and Loss account for anticipated Loss equivalent to debit balance in "Marked to Market Margin Index/Stock Futures Account." Net amount received which is anticipated profit represented by credit balance in MTM Margin account shall be ignored and no credit shall be taken to Profit and Loss account considering principle of "prudence". For this purpose the net amount paid or received on account of MTM on Open contracts should be determined index wise or scrip wise. Provision so created

should be shown as deduction from MTM Margin Index/Stock Future under the head "Current Assets". Proper disclosure is required to be made for the open interest as on the Balance Sheet date in respect of different series of contract.

- ***At the time of Final Settlement***

As on date, all future contracts whether Index Future or Stock Future are cash settled on the settlement date. The difference between contract price and the settlement price shall be calculated and recognised in the Profit and Loss account after adjusting provisions created for anticipated loss, if any. Any loss arising out of settlement shall be first charged to such provision account and balance of loss if any shall be charged to Profit and Loss account. If more than one contract in respect of relevant series of equity index future/equity stock future contract to which the square up contract pertains is outstanding, the contract price of the contract so squared up should be determined using Weighted Average Method for calculating Profit or Loss on squaring up.

5. ACCOUNTING TREATMENT OF OPTION CONTRACT

- ***At the inception of the Contract***

In the Books of Buyer

The buyer of the option whether call or put is required to pay premium. In the books of buyer, such premium should be debited to "Index Option Premium Account" or "Stock Option Premium Account" as the case may be.

In the Books of Seller

On receiving the premium the "Index/Stock Option Premium Account" will be credited. However, the seller is also required to pay initial margin to the clearing corporation for entering into contract as in case of futures contracts. Such initial margin is debited to "Index / Stock Option Margin Account".

"Index/Stock Option Premium Account" or "Index/Stock Option Margin Account" shall be shown separately under the head "Current Assets" or "Current Liabilities" as the case may be.

- ***At the time of continuance of Contract***

In the books of buyer no entries are required to be passed. In the books of seller/writer, entries will be passed for payment or receipt of marked to market (MTM) margin difference in a similar manner as in case of future contracts.

However, if the contracts are live (open) as on the balance sheet date, appropriate provision has to be made in the books of account by giving effect into Profit and Loss Account.

- ***Open Contracts as on Balance Sheet date***

In the Books of Buyer

The maximum loss in Option Contract to the buyer is limited to the premium account. At the time of balance sheet date if the premium prevailing in the market for a contract of similar nature is lower than the premium so paid, then the provision is to be made for the difference. The provision so created shall be credited to "Provision for Loss on Index/Stock Option Account" and shall be reduced from "Index/Stock Option Premium Account" appearing under the head Current Assets.

In the Books of Seller

If the premium received is lower than what is prevailing in the market for a contract of a similar nature, then appropriate provision for loss will be made by debiting profit and loss account and crediting "Provision for Loss Index/Stock Option Account". This account shall appear under the head "Current Liabilities".

In case, if the premium prevailing in the market as compared to premium paid/received renders expected profits, the same shall be ignored considering the principle of prudence.

In case of multiple open options at the year end, the index wise /stock scrip wise provision should be made considering all open options of any strike price and any expiry date pertaining to that index/scrip taken together.

- ***At the time of final settlement***

In the Books of Buyer

As on now, the Index Options and the Stock Options both are settled in cash and the accounting entries will also be similar. On exercising the option either at the time of final settlement or at the time of squaring up, the premium will be recognised as expense, net of amount lying in provision account, if any.

In addition to this, the buyer is also entitled for a favourable difference (if any) of settlement price and strike price, and the same shall be recognised as income.

In the Books of Seller

Similar the seller will recognise the premium as income after adjusting provision made in this regards, if any. Payment of actual difference by seller at the time of squaring up will be debited to profit and loss as a loss.

For working out Profit & Loss in case of outstanding multiple options of the same scrip/index with the same strike price at the same expiry date, weighted average method should be followed on final settlement.

Accounting for forward foreign exchange contracts is covered by AS 11.

6. **TAXATION**

The Finance Act, 2005 has clarified that equity derivative transactions will not amount to speculation. Section 43 (5) defines a speculative transaction and its provisos provide exceptions to this definition. A new proviso (d) is now added to this sub section and provides that : an eligible transaction in respect of trading in derivatives referred to in Section 2 (aa) of the Securities Contract Regulation Act, 1956 carried out in a recognized stock exchange will not be treated as a 'speculative transaction'. The transaction is required to be carried out on electronic trading systems through a recognized broker or sub broker and supported by a time stamped contract note which should contain the PAN No and the Unique Identification Number of the assessee.

The amendment as drafted in the Finance Bill does not seek to cover commodity derivatives.

The taxability of persons who are not in the business of securities but have carried out derivative transactions is not covered clearly by the Income-tax Act. It is widely believed by experts that these could be treated as Capital Gains or as Income from Other Sources.

COMMODITY FUTURES

1. **History**

Futures Trading in Commodity is a natural outgrowth of the problems of maintaining and managing supply of Agricultural Products and other commodities. Worldwide there are many exchanges operating in commodity futures. Commodity Futures has a very long history in today's world, the first exchange "The Chicago Board of Trade" (CBOT) was established in 1848 for trading in commodity futures. In 1880 and 1890 the New York Coffee, Cotton and Product Exchanges became operative.

The products like Corn, Wheat, Oil, Rice, Rubber, Tea, Coffee, Sugar, Cotton, iron, Gold, Silver etc. are the products regularly traded on the commodity exchanges.

2. **Commodity Exchange** is a systematic and organized market where the commodity trades among the buyers and sellers are carried on regularly under the supervision and control of the exchange and also under well devised rules, regulations and byelaws of the Exchange.

3. **Commodity Future Contracts**

Futures in which the underlying asset is a commodity are commodity futures. Future contracts are part of exchange traded derivative contracts whereby the parties entered into the contracts for deliveries to be settled in future at predetermine price.

In India the Forward Contracts Regulation Act, 1952 governs the trading in commodity futures. The exchange under this Act, can formulate their rules, regulations and byelaws for carrying on commodity trading on day-to-day basis. Forward Markets Commission (FMC) approves the rules and regulations of the market and supervise the functioning of exchange.

MCX (Multi Commodity Exchange of India Limited) and NCDEX (National Commodity and Derivative Exchange Limited) are the two exchanges which have begun the operations in commodity futures in our country. Barring few exceptions the pattern of trading, market mechanism, margining system and settlement procedures in commodity futures are similar to that of future trading in stocks/indices. Applicability of physical deliveries, sales tax, bad deliveries are the few exceptions which distinguish them with stocks /indices futures.

The party who buys the commodity derivative contracts is assuming a long position in the market with the expectation the price will go up, similarly the party who sells the contract assumes a short position expecting the price to go down.

4. **The typical future price quotation will look like as under:**

Instrument Type	Underlying	Expiry Date	Open	Units	High Price	Low Price	Prev Close	Last Price	Number of traded	Turnover in Rs. lakhs
Gold Future	Gold	5-Aug	6200	10 gms	6214	6181	6209	6210	300	18.63
Sugar Future	Sugar	4-Jun	1785	100 kgs	1805	1785	1770	1795	9	16.13

5. **Margins**

The buyer or the seller of the contract has to deposit the initial margin before entering into the trade. They are also subject to marked to market margin (MTM) as applicable in Derivative segment of securities market. The buyer has to deposit the margin, with the commodity broker and the broker in turn has to deposit the margin with clearing corporation for clearing house.

The exchange will specify in its contract description, the particular grade, variety, quality settlement, strike price etc. pertaining to any commodity. A range will be specified for all the properties and only those grades, which fall within the range, will be accepted for delivery. In case the properties fall within the range but differs from bench marks specifications the exchange will specify rebate/premium for the same.

6. **Futures Contract Specifications**

The typical contract of a commodity future will have following important ingredients apart from other usual factors.

Commodity	Gold
Units of Trading	100 gm
Delivery Unit	1 kg
Value	Rs. 6190 / per 10 gms of Gold with 999.9 purity
Tick size	25 pais
Quality specification	Not less than 990.0 purity
Quatity Variation	Not applicable
No. of active contract	At any date, 3 concurrent month contracts will be active
Delivery centre	INDORE
Premium/ Discount	The discount will be given for the fineness below 999.9; i.e., if the Fitness is between (999.9 and 990)

7. **A clearing corporation/house** of the exchange guarantees the successful settlement of the contract traded electronically on the trading system of the exchange. The main functions of the clearing house is to maintain broker/client wise exposures on the exchange, and to honorur the settlement obligations. The margin paid by the client/broker are also deposited with the clearing corporation.

8. **Settlement procedure**

All contracts settling in cash would be settled on following day after the contract expiry date. All contracts materializing into deliveries would be settled in a period of two to seven days after the expiry on the basis of rules & regulations of an exchange. The Contracts for Commodity Futures are either deliverable or non- deliverable and intention of the same can be given anytime during the continuation of the contract. Contracts, which are not assigned for delivery, shall be settled in cash.

The system of Pay-In, Pay- Out, Margining will be similar to that of Trading in Shares and Securities. A buyer intending to take physical delivery would have to request to an intermediary which in turn passes the same to the warehouse on an specified day, the buyer can pickup the delivery from designated warehouses. The seller intending to make a delivery has to take it to designated warehouse where it will be assessed for its quality assurance according to the prescribed norms. The warehouse, on satisfying with the quality shall issue the receipt (may be in an electronic form) for the same.

The Contract such converted into deliveries shall be subject to sales tax at a rate and procedure applicable to the individual states. Those, who trade with the intention of taking or giving delivery should have sales tax registration before settlement of the delivery based trade.

INTEREST RATE DERIVATIVES

Interest Rate Derivative is a part of Financial Derivatives which enables to manage the risk, pertaining to "Interest Rates" fluctuations. It is a derivative instrument whose pay-offs depends on the prevalent interest rates over the period of time. Underlying variable in such instrument is "Rate of Interest".

1. **INTEREST RATE FUTURES**

An interest rate future is an agreement between two parties to exchange interest payment for a "Notional Principal Amount" on settlement date for a specified period. In order to manage interest rate

risk SEBI has permitted exchanges to allow trades in Interest Rate Derivatives, which are at present in operation on both BSE as well as on NSE.

Exchanges have introduced the products for a short term as well as long term management of Interest rate risk. "Notional Treasury Bill" is for a short-term management, whereas, 10 years coupon yielding Bond and zero coupon bond are for a long term Management. The underlying in such contracts is either Treasury Bill, 10 years coupon yielding Bond or zero coupon bond. Trading in future reflects the views of the party about future movements of the Interest rate. For instance, the person having a long position of future contracts relating to coupon yielding Bond expects the interest rate to fall over the life of the contract and the person going short in similar contract expects the relevant interest rate to rise over the life of the contract. The exchange specifies the contract description, the size of the contract, settlement procedures and margin mechanism for different kinds of contract.

2. **INTEREST RATE OPTION**

The basic feature of this product is similar to that of other option contracts with the difference of underlying, which in this case is the "Interest Rate". Caps, Floors & Collars are popular types of Interest rate options.

3. **CAPS**

If an upper limit of strike price is set, it is called a Cap. The purchase of an interest rate Cap guarantees the borrower of a floating rate loan that the interest liability shall not exceed the Cap rate. If the market price on the maturity date is higher than the Cap price, then the Cap price will be the settlement price.

4. **FLOORS**

If the lower limit of strike price is set, it is called Floor. The purchase of interest rate Floor guarantees a lender of a floating rate loan that its interest income will not reduce below the Floor rate. If the market price on the maturity date is lower than the Floor price then the settlement will be at Floor price.

5. **COLLARS**

An interest rate Collar refers to a combination of an Interest Rate Cap & Interest Rate Floor whereby both minimum & maximum, Cap (maximum) Floor (minimum) is guaranteed to the buyer of contract. In Collars, the strike price cannot be higher than the Cap price and lower than the Floor price.

6. **INTEREST RATE SWAPS**

Interest rate swap is an agreement between the counter parties to exchange two streams of payments for an agreed period of time based upon a notional principal. Typically one party pays interest based on an agreed fixed rate & the other party pays interest linked to a floating rate. Interest rate swaps accounts for the majority of activity of banks which swaps the fixed rate for floating rate & vice versa.

In such a swap one party agrees to make fixed rate interest payment in return for floating rate interest payment from counter party. This interest is calculated on hypothetical "Notional principal". This notional principal amount does not change hands but used only for the purpose of interest calculations. A swap is settled by entering into off setting swap or by settling the difference in cash.

[Back to Subject Listings](#)