

AN INVESTOR'S GUIDE
TO
INDEX FUTURES



National Stock Exchange of India Limited

Derivatives

In recent years, derivatives have become increasingly important in the field of finance. Futures and options, the most popular derivatives are now actively traded on many exchanges. Forward contracts, swaps, and many other derivative instruments are regularly traded both in the exchanges and in the over-the-counter markets. Derivatives have probably been around for as long as people have been trading with one another. Forward contracting dates back at least to the 12th century, and may well have been around before then.

Benefits of Derivatives

Derivatives reduce market risk and increase the willingness to trade in stock market. Trading in derivatives involves lower cost of trading and it also leads to increased volume in the stock market.

What are Futures and Options?

Futures and Options are forms of exchange-regulated forward trading in which you enter into a transaction today, the settlement of which is scheduled to take place at a future date. The settlement date is called the expiry date of the contract.

A *Futures contract* is an agreement between the buyer and a seller for the purchase and sale of a particular asset at a specific future date. The price at which the asset would change hands in the future is agreed upon at the time of entering into the contract. The actual purchase or sale of the underlying involving payment of cash and delivery of the instrument does not take place until the contracted date of delivery. **A futures contract involves an obligation on both the parties to fulfill the terms of the contract.**

An Option is a contract that goes a step further and provides the **buyer** of the option (also called the holder) **the right, without the obligation**, to buy (call) or sell (put) a specified asset at an agreed price on or upto a particular date. For acquiring this right, the buyer has to pay a premium to the seller. The **seller** on the other hand, **has the obligation** to buy or sell that specified asset at that agreed price. The premium is determined taking into account a number of factors such as the underlying's current market price, the number of days to expiration, the strike price of the option, the volatility of the underlying asset, and the risk-less rate of return. Specifications of the options contract like the strike price, the expiration date and regular lot, are specified by the exchange.

An option contract may be of two kinds, viz., a Call option or a Put option. An option that provides the buyer the **right to buy is a Call option**. The buyer of the call option can call upon the seller of the option and buy from him, the underlying at any point on or before the expiry date by exercising his option at the agreed price.

The seller of the option has to fulfill the obligation on exercise of the option.

The right to sell is called a Put option. Here, the buyer of the option can exercise his right to sell the underlying to the seller of the option at the agreed price.

What are Stock Index Futures and Options?

A futures or options contract which is based on a set of underlying securities, i.e., the index, is called a 'Stock Index Futures or Options Contract'. When trading takes place in stock index futures, it means that market participants are taking a view on the way the index will move. By trading in Index-based Futures and Options you buy or sell the 'entire stock market' as a single entity.

S&P CNX NIFTY

S&P CNX NIFTY is the most scientifically developed index in India. The top 50 blue chip

companies have been selected to construct the index. This index covers more than 25 industry sectors and is professionally managed by India Index & Services Ltd. (IISL). IISL has a licensing and co-branding arrangement with Standard & Poor's (S&P), the World's leading provider of equity indices, for co-branding IISL's equity indices. Daily derivatives trading in U.S. based on S&P 500 index alone is over US \$ 50 billion.

What are the advantages of trading in S&P CNX NIFTY Futures?

Trading in S&P CNX NIFTY futures have many advantages :

- You, as an investor, will be able to buy or sell the 'entire stock market' instead of individual securities when you have a general view of the direction in which the market may move in the next few months.
- Index based derivatives satisfy the hedging requirements of investors such as you having reasonable sized portfolio irrespective of the composition of the individual securities in your portfolio.
- Index based derivatives are settled in cash and therefore all problems related to bad delivery, forged, fake certificates, etc can be avoided.
- Since the index consists of many securities (50 securities) it is very difficult to manipulate the index. This adds to the attractiveness of index as a base for introducing derivatives trading.
- Investors are required to pay a small fraction of the value of the total contract as margins. This means that trading in Stock Index Futures is a leveraged activity since the investor is able to control the total value of the contract with a relatively small amount of margin.

How do I trade in S&P CNX NIFTY Futures?

Trading on the Nifty futures is just like trading in any other security. You take a view on the way the market will move and buy or sell the index. On the expiration day, if the closing index value is higher than the value at which you had bought the index, then you make a profit. If the closing index is lower than the level at which you bought, you make a loss. However, in this case, if you had anticipated a downswing in the market, and had sold initially, you make a profit. It is similar to buying low and selling high or conversely selling and then buying back when the market goes down.

Trading cycle for S&P CNX NIFTY futures

NSE will permit trading in near 3 months contracts. The contracts will expire on the last Thursday of the contract month. New contracts will be introduced on the next trading day.

Example

If NSE introduces trading in NIFTY from January 2000 :

<u>Contract Month</u>	<u>Expiry/settlement</u>
January 2000	January 27th
February 2000	February 24th
March 2000	March 30th

On January 28th which is the first trading day after January 27th

<u>Contract Month</u>	<u>Expiry/settlement</u>
February 2000	February 24th
March 2000	March 30th
April 2000	April 27th

Initial / up front margin and mark to market daily settlement

Futures trading involves the payment of initial margins. At the time of starting your trading activities through the NSE, you would be required to pay an initial/up front margin to your broker. The initial margin serves as a security deposit, which in turn the broker has to pay to the exchange. Your positions in the futures market will be revalued or 'marked-to-market' everyday. This is done by the exchange to assess the value of your positions on a daily basis. If the market value of your position shows a loss, then you would be required to pay the difference. Similarly, in case your position has gained in value, you will be paid the profit amount.

Initial margin example

- If Raju bought 100 units of NIFTY January expiry contract @ Rs.1450/-
- If daily margin is 5%
- Margin money payable up front by Raju will be Rs.7250/- (Rs.145000*5%)

Mark to market daily settlement

If Raju bought 100 units of January Expiry contract at Rs.1450/- on 5/1/2000

Settlement price of January expiry contract = Rs.1460/- on 5/1/2000

Raju makes a mark to market profit of Rs. 1000 i.e., [100 units * 1460-1450]

What if after I enter into a trade, I change my mind and no longer want to carry the obligation till the expiration date?

In case you no longer want to carry forward your obligation for fulfillment of the contract, all you need to do is enter into a transaction, which will square up your position. That is, in case you had bought the index earlier, you would require to sell it and in case you had sold earlier, you would need to buy back. This transaction would close out your existing buy or sell position. Of course, the difference between your buy and sell prices would be your gain or loss.

Example

- Raju Buys 100 units of January expiry NIFTY contract at Rs.1450/- on 5/1/2000
- On 7/1/2000 NIFTY January expiry trades at Rs.1500/-
- Raju can either sell the 100 units at Rs.1500/- and make a profit of Rs.5000/- (100 units @ Rs.50/- profit per unit)

OR

- Raju can wait till the expiry date i.e., 28/1/2000

How do I settle an Index-futures contract?

In case you hold an open Index future position until the contract expires, it will be cash-settled on the settlement day. Cash settlement means, there will be no physical delivery of securities. Only the difference between the contracted value and the closing index value will be settled, depending on whether you have made a profit or loss.

- If Raju bought 100 units of January Expiry contract at Rs.1450/- on 5/1/2000
- Raju does not close out his position till expiry
- Closing value of January expiry contract on day before the last trading day is 1500
- Final settlement price is 1510
- Raju's position will be closed out at 1510
- Difference between Closing value of the previous day and final settlement price will be paid on T+1 i.e., Rs.1000 (100*1510-1500)
- Raju will make an overall profit of Rs.6000 (100* 1510-1450)