WAY2WEALTH
A COFFEE DAY COMPANY

FUTURES ARBITRAGE

Arbitrage is the act of simultaneously buying and selling assets or commodities in an attempt to exploit a profitable opportunity. Arbitrage is done between two related instruments that are temporarily mis-priced.

For example, the futures price and spot price are related by the interest rate, time to maturity and corporate benefit, if any, in the interregnum.

If the two prices do not move in tandem, then it throws up arbitrage opportunity. An arbitrageur will buy what is cheap and sell what is costly and lock in profits without any risks.

INDEX ARBITRAGE

Index Arbitrage is the basis between the Index (Nifty) futures and its constituents (Basket).

- Nifty future is in discount to Nifty spot – Buy Nifty Futures and Sell Basket.
- Nifty future is in premium to Nifty spot – Buy Basket and Sell Nifty Futures.

As we can't trade in Nifty spot, we have to create Basket of Nifty components either with underlying stock or stock futures

PROCESS

If Nifty is in discount (as quite often), then you have to sell basket.
As you cannot short sell in cash, we will be creating basket using stock futures.
Advantage of using stock futures is – only margin money will be deployed.
We will be creating Basket based on the weight of the constituents in the Nifty.(Market Capitalization Method).
We have to make portfolio - “Perfect Hedge”.

HEDGING

Protecting the value of an asset against risk arising out of fluctuations in price is known as hedging. Technically hedging means transfer of risk from the asset holder to another person who is willing to carry risk. When an investor is bearish on market, he can hedge his position by taking countervailing position against his portfolio, say, selling Nifty futures

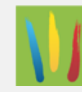
If the market falls, the fall in portfolio value will be compensated by the gains on the Nifty futures. But if the market rises, the rise in the portfolio value would be offset against the futures loss.

The same concept can be applied to any stocks which have a presence in futures market. The result of any Perfect Hedge contract is – “No Profit and No Loss”.

PORTFOLIO HEDGING

To hedge portfolio, we need to calculate the Beta of the Portfolio and then hedge the Portfolio against the price risk.

Beta measures the sensitivity of the stock to the broad market index. So if the beta of the stocks Portfolio is 1.05, and if the markets rise by 1%, then the Portfolio is likely to go up 1.05% and same goes for negative movement too.



Calculate the number of Nifty contracts needed for Hedging. We can use the formula:

(Portfolio Beta X Portfolio Value) / Futures Value.

For example,

Portfolio value = ₹1,00,00,000,

Nifty value = 4,50,000 (4500 * 100) and **Beta of Portfolio** = 1.05

No. of contracts = (1,00,00,000 * 1.05)/4,50,000 = 24 contracts

So we need to sell 24 contracts of Nifty to hedge the Long Portfolio.