

## Lesson on arbitrage

Arbitrage is an often-used term in share markets. The arbitrager is an important intermediary that helps in price discovery mechanism in all markets be it equity, money forex or derivatives. There are three important participants that are important in a cash market, the speculator, arbitrager and an investor. In futures market the investor is replaced by a hedger. Arbitrager and Speculator are often confused and both are termed as Speculators. In this article I wish to explain the difference between the two and show how arbitrage works in the market and its influence on market volatility.

Arbitraging in India has been going on for several years. Initially arbitrage activity was between Stock Exchange Mumbai and all other regional exchanges. Mr. Babulal Bagri the founder of BLB Securities and Mr. Manubhai Maneklal were legendary arbitragers of that era. They traded between Mumbai, Delhi and Kolkatta markets. Arbitraging in those days was done manually and not on any online system. The way the fingers of these brokers flew on telex machines giving trade instructions was an experience by itself. Then it shifted to cashing on price difference between NSE and BSE limited. Today large amount of arbitrage happens between cash and derivative markets. Arbitrage is also possible between the current month and near or far month contracts. In case of Commodity exchanges also there is an arbitrage opportunity between the local cash markets or mandis and the future markets which are popularly known as National Commodity Exchanges.

Speculator is one who gives liquidity to the markets. The buyers and sellers may not often decide at the same time to buy or sell a security. There is a time gap as well as a difference in price and quantity at which the buyer and seller intend to do a transaction. The speculator fills this time gap and gives quotes to buyers as well as sellers on a continuous basis. This imparts liquidity to the market since each order has a counter offer from a speculator even if there is no counter party to match the order.

The arbitrager is one who plays the role of balancing the price differences across the markets. The markets may be two exchanges trading in the same product or two segments such as cash and derivatives or across international markets and local markets. The arbitrager continuously tracks prices across the chosen segment. are momentary price differences in two markets due to difference in level of information as well as demand supply

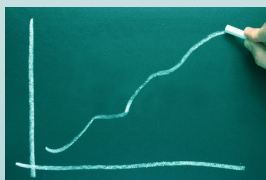
situation in the market. These price differences are an opportunity for the arbitrager.

The arbitrager has money power at his disposal. He takes deliveries in a particular market segment and is able to give deliveries in another market segment. There is a time gap between giving and taking deliveries. He holds the stock for this time and earns an interest on the funds invested which comes by way of price differential between buy and sell rates. The arbitrager has a particular interest return as his target. He does not have any open positions and all his purchases or sells in a particular market segment have a counter position in another market segment. At the net level his position is always zero. This is how the arbitrager earns a risk free return.

The arbitrager does not always wait for the expiry of the contract or the settlement of the transaction. They may reverse the position before the actual settlement date even if they have to compromise on some percentage of the price difference earned by them. Lesser return is acceptable if it is earned with smaller or no investment. All decisions are taken with reference to a benchmark-targeted return.

To give example of an arbitrage transaction, assume that the arbitrager has Rs.10 lacs available for doing arbitrage activity. His targeted return is say 18% p.a. which works to about 1.5% p.m. We will take a simplistic transaction where he does just one trade to earn the return. If some share is quoting at Rs.1000 in one cash market he will look for opportunity to buy at Rs.1000/- and sell at Rs.1015/- or more in another cash market simultaneously. These markets must have different settlement dates otherwise in current rolling settlement scenario it is not possible to give and receive delivery since both happen on the same day.

Now the same example can be extended to cash and derivative segment. Shares are purchased in cash market; and sold in futures market. Delivery of the shares is received in the rolling settlement. Since deliveries are not permitted in futures market a reversal opportunity is looked for before the expiry of contract, otherwise the arbitrager will be left with the delivery of shares. Hence if he gained say Rs.25 per share on the first leg he will reverse the trade upto a loss of Rs.10 in order to achieve his benchmark return of Rs.15.





	Cash Market	Futures Market	Profit / (loss)	Remarks
<b>1st Leg</b>				
Quantity	+1000	-1000		Transaction done on 1 <sup>st</sup> day of the month
Price	1000	1025	Profit Rs.25 per share	
Investment	10,00,000			
<b>2nd Leg</b>				
Quantity	-1000	+1000		Transaction expiry say on 15 <sup>th</sup> of the month
Price	1015	1020	Loss Rs.5 per share	
Investment	-1015000			Sale proceeds received
Return on 15 day investment	Rs.20000 i.e. 48% pa			Rs.15000 on cash segment and Rs.5000 on derivatives segment

The returns are not often as fantastic but opportunities are many. We also have to deduct from this the cost of brokerage, Securities transaction tax, stock exchange charges and stamp duty. Hence it becomes unviable for an investor unless the transaction costs are very low. The price difference is only for a few minutes or seconds hence it must be captured instantly through a speedy trading system. It should not so happen that one transaction is done and the other one does not go through i.e. if the arbitrageur buys and is unable to sell and the market falls then instead of making a profit he will end up with a loss. Automated trading programs are used in order to release both orders so that both the prices are captured simultaneously.

Arbitrage activity thus adds to liquidity in the markets and also helps in balancing the prices of same shares across various markets. Prices continuously balance out once the differences are cash upon. Arbitrage Helps in reducing volatility in markets since

continuous flow of orders reduces impact cost and more depth means less volatility.

A small investor may not always be able to capture small differences in prices. They are not constantly in front of the trading screen nor do they have sophisticated trading systems to execute the orders. They are often linked to Internet or a network connection that is not direct feed into the stock exchange system i.e. BOLT or NEAT. Streaming quotes on online trading is closest that is available for such trading. Best strategy is to look for difference in shares prices of stocks that you already have, hence delivery is not a problem. Otherwise it is a volume game, small returns over thousands of transactions is the name of the game. It is advisable to study the opportunities. You may not act on all of them, but it prepares you to invest your money wisely when you are a Billionaire....

## Asit C. Mehta

INVESTMENT INTERMEDIATES LTD

*Edited by Deena Mehta, Managing Director,*

*Asit C. Mehta Investment Intermediates Ltd. E-mail: damehta@acm.co.in*

E-mail : acmiil@acm.co.in  
Group Website : www.nucleusindia.com  
Online Trading Portal : www.asitmehta.com

### SEBI / Regulatory Registration Numbers :

BSE C.M. : INB 010607233  
• NSE C.M. : INB 230607239  
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### Registered Office :

Nucleus House, 5th floor, Saki Vihar Road, Andheri (E),  
Mumbai - 400072. India • Tel.: 022-2857 7898 or 2857 7614/15/16  
Fax: 022-2857 7647

### Corporate Office :

67, Poddar Chambers, 3rd Floor, 109, S. A. Brelvi Road,  
Fort, Mumbai - 400 001. India • Tel.: 022-2270 0115, 2265 1540  
Fax: 022-2270 0124