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ARBITRAGE TRADING IN COMMODITIES

Commodities by their inherent nature, need storage and transportation to make them available at different time and at different locations. Also, these commodities are traded in various forms and in different markets throughout the world. Sometimes we find difference in price of any particular commodity either in different markets (eg, spot market and futures market; or different commodity exchanges) or difference in price of futures contracts with different expiries. These price disparities provide opportunities to buy the commodity at lower price and sell it at higher price simultaneously so as to lock in near risk free profit. This kind of opportunity is called an arbitrage opportunity and those who identify these opportunities across commodities and markets and trade them are called commodity arbitrageurs.

In recent times, many commodity brokers have setup specialised desks to identify and trade in commodity arbitrage. These teams closely track different commodities in various markets in order to identify and trade winning opportunities. While arbitrage opportunities arise frequently in agricultural commodities, they are also available in metals and energies.

To execute an arbitrage trade, one has to simultaneously enter into trades in two markets/ commodities/ contracts where the price differential exists. Arbitrage is considered to be an investment option with negligible risk for trader or investor as both, buying and selling legs of the trade are executed simultaneously and hence the profit gets locked in at the very start of the trade. The miniscule risk here makes them a favourite product among low risk appetite investors and traders who want their capital to be secured.

We can further classify these arbitrage opportunities into following:

a. Cash-n-Carry (or Byaaj-badlaa or Spot-to-future) arbitrage
b. Inter Exchange arbitrage
c. Inter Commodity arbitrage
d. Calendar Spreads arbitrage

A. Byaj-Badlla or Cash-n-Carry Arbitrage

This is the trading opportunity that arises when price differential between spot/physical market and future market is more than cost of carry of the commodity for the said duration. This is the easiest form of commodity arbitrage, where trader/investor finds that if he/she buys the commodity in the spot market, and simultaneously sell it in the futures market then after giving delivery of the commodity on exchange at expiry of contract, he/she could make some profit even after incurring cost of carry. Here the simultaneous trades are executed in order to gain from the price disparity between the spot and futures prices.

Guarseed has been a favourite commodity of byaaj-badlaa right since it was launched on NCDEX. The long shelf-life of the commodity along with contango futures price movement at NCDEX almost throughout the year have been major plus points in favour of guarseed byaaj-badlaa. An arbitrageur bought guarseed in physical market, stored it in the warehouse and sold an equivalent quantity on the futures platform of NCDEX. After deducting all the charges incurred in warehousing and delivery, the arbitrageurs were able to generate a profit of 18-24% on annualized basis during the era of year 2004-2010.

Similarly, suppose an arbitrageur finds that cottonseed oilcake can be bought in market at Rs 1450 and NCDEX farther month contract is trading at Rs 1587. There are 90 days to delivery. He/she calculates all costs involved in buying, storing and delivering at exchange and found that the opportunity is yielding a return of @20% on annual basis.

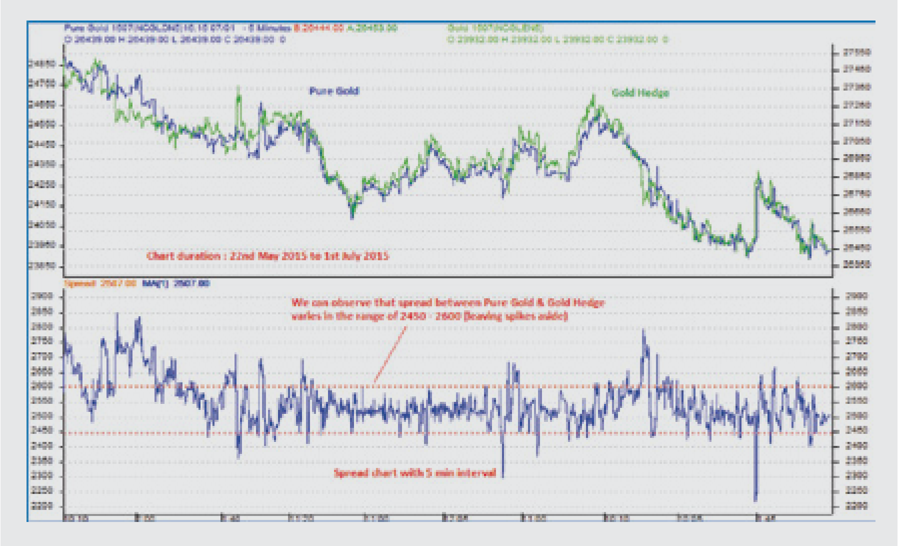
Commodity	Cottonseed Oilcake
Physical Purchase Price	1450
Future price of contract in which delivery is being given	15
Days remaining to delivery	90
Warehouse rent	4050
Exchange TO charges	63.3
Exchange Delivery charges	238.1
Exchange Risk Management Charge	63.48
Comtrack charges	50
Future Brokerage	18.1
Delivery brokerage	180.9
CnF Charges	725
Capital invested in Spot Leg	145000
Capital Invested in Future Leg	15870
Net Return	8311
ROI (annual in %)	20.3%

B. Inter Exchange Arbitrage

Sometimes we can find the price difference for the same commodity being traded at two different exchanges say NCDEX and MCX. This price disparity can arise majorly due to short term volatility, difference in contract specifications or lack of liquidity at one exchange etc. For example, Gold Hedge at NCDEX is of 1 kg 995 purity contract and Gold Global at MCX is of 200 gms and 995 purity contract. Liquidity in MCX Gold Global is much lower than NCDEX Gold Hedge and that leads to divergence between the bid-ask spreads for trades on the two exchanges during time of higher volatility. This scenario gives rise an arbitrage opportunity to buy in one exchange with lower price of that commodity and sell at other exchange with higher price and later on square off both positions separately at appropriate price differentials. Similarly there might arise inter-exchange arbitrage opportunity in Crude Palm Oil trading at these two exchanges.

C. Inter-Commodity Arbitrage

There are few groups/sets of commodities that are highly correlated to each other and price of both commodities tend to change together. For instance, prices of few commodity pairs such as Guarseed and Guar Gum; Gold Hedge and Pure Gold; Kapas and Cottonseed Oilcake move together in same direction, not necessarily to the same extent. One can find arbitrage opportunity by identifying the range of spread between them and trade accordingly. For example, during the month May-June 2015, prices differential between Pure Gold and Gold Hedge ranged from 2450-2600. Though prices of both commodities move together but sometimes not by exact same proportion and that gives an opportunity of arbitrage trading and making profit. In case of Gold and Gold Hedge, if price difference reduces to 2450, arbitrage trade can be initiated by buying 1 lot of pure gold and simultaneous selling of one lot of gold hedge and then squaring off both when price differential reaches towards 2600. Similarly, one can sell pure gold and buy gold hedge around price difference of 2600 and square them off near 2450. In both scenario, arbitrageurs can make profit even after deducting all trading charges.



D. Calendar Spreads or Intra-Commodity arbitrage

This type of arbitrage opportunity arises between futures contracts of same commodity at same exchange but with different expiry months. This arises due to fundamentals changes regarding demand supply of the commodity. Here the arbitrageur buys the near month contract with lower prices and sells in the forward month contract with higher prices or vice versa.

For example, if the market expects a good crop of Chana, on indications of a good monsoon, the contact expiring in the harvesting month will either start moving in backwardation or narrowing of prices would be observed. Arbitrageurs able to identify the trend early can get a favorable arbitrage opportunity by buying in near months and simultaneous selling in farther months.

Taking an example of Chana on 22nd January 2015, when the difference between price of NCDEX Chana April and NCDEX Chana February contracts was Rs 173. An arbitrageur can sell April contract and buy February contract of chana and squares off his trades before the staggered delivery period gets started. That means the capital remains invested maximum for a duration of two weeks. On 30th January the difference was reduced to Rs 60. The arbitrageur now bought back the contract in April expiry and sold in February expiry thereby closing both the future positions before expiry. In this way trader could make a profit of Rs11300 (excluding trading costs) in a short span of just 9 days.

Limitations of arbitrage trading

Arbitrage opportunities may not be continuously available in the market. Therefore one requires continuous monitoring of the prices of various combination of commodities and expiries.

They are very short lived in nature. As soon as an opportunity is spotted by the arbitrageurs, they enter the market and maximize the opportunity, not leaving anything for the laggards. So one has to be very quick in execution of trading.

Arbitrage trades generate returns from commodity price differentials and are considered safe as compared to vanilla futures trading and hence the returns are lower. It has the potential to generate returns equal to or greater than the returns provided by the traditional money/debt markets. However, it should be clearly understood that the returns are not guaranteed or assured and may vary from time to time based on market opportunities as discussed above.

Transaction costs in arbitrage trades are higher than other trades as arbitrage trades involve four legs of transactions and various costs e.g., brokerage cost, turnover cost and government taxes are involved in all four legs, thereby reducing the profit to certain extent.