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## **Basics of Investment in Commodity Market in India**

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### **ABSTRACT:**

*Commodity futures trading in India commenced more than 100 years back. Major enactment to this effect was in the form of Forward Contract Regulation Act (FCRA), 1952. But, the situation has not matured due to the virtual banning of futures trading since the early 60s till late 80s when the scarcity environment prevailed. Presently, it has become very popular among the traders and retail investors, the reason that they provide the investors with a better opportunity of diversifying their portfolios in addition to what the bonds, shares, and real estates offer. This study analyses the market behavior and price discovery in Indian Agriculture Commodity Markets. Commodity future trading was permitted from 2003. The commodity derivatives market in India has witnessed a phenomenal growth. The functioning of future market came under scrutiny during 2008-2009 due to price rise and the role of futures market in stabilizing spot prices was widely studied.*

*This paper helps us to get an idea about the whole commodity market which must be known to everyone before investing in the market.*

### **I. BASICS IN FUTURES AND OPTIONS**

#### **A. DERIVATIVES**

A derivative is a financial instrument, which derives its value from some other financial price. The “other financial price” is called the underlying. It has no independent value of its own but derives its value from the value of an underlying asset. This underlying asset could be a stock, index, interest rate, commodity price etc. It is basically a risk management tool and is useful in facilitating temporary hedging of price risk of inventory holding or a financial / commercial transaction over a certain period. For instance, a wheat farmer may wish to contract to sell his harvest at a future date to eliminate the risk of a change in prices by that date. The price for such a contract would obviously depend upon the current spot price of wheat. Hence, the contract is the “derivative” and the wheat on the spot **market** is “the underlying”. However, derivatives can be employed not only for hedging but also to make profits.

Looking at its terrific potential for profits and obvious advantages of hedging, the Securities Contracts (Regulation) Act, 1956 was amended to include a derivative within the meaning of “securities” under the Act and thus allow for its trading. The Act defines “derivative” as including:

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A security derived from a debt instrument, share, loan whether secured or unsecured, risk instrument or contract for differences or any other form of security;

Derivatives may be broadly categorised into the following categories:

1. Options
2. Futures
3. Swaps
4. Forwards

As aforesaid, this paper restricts itself only to futures and options in commodities and does not discuss the other kinds of derivatives.

## **B. FUTURES**

A futures contract is a type of derivative or financial contract, in which two parties agree to transact a set of financial instruments or physical commodities for future delivery at a particular price. For instance, A, a farmer, is expecting a good harvest of wheat but fears that the prevailing price of wheat may decline in the future. To hedge against this risk of price fluctuation A enters into a contract with B in January 2005 to deliver, at a later date, 50 Kgs of wheat at the present **market** price. The contract between A and B is a futures contract and B (buyer) is said to go long the contract whereas A (seller) is said to go short. The price agreed to, between the parties, for delivery of 50 Kgs of wheat is called the settlement price. Now, if the prices were to actually decline, the farmer would walk away with a profit but if the prices were to go up instead, he would end up making a loss.

Futures can be traded either over-the-counter (OTC) or over an exchange. Futures traded OTC is also called forwards. While an OTC future remains open to counterparty risk, there is no such risk in an exchange. This is because in an exchange both the parties transact only through the exchange and thus the exchange is substituted as one of the parties to the contract. In other words, the exchange plays the role of a guarantor to both the parties of the contract. This eliminates the possibility of counterparty risk.

Let us take a closer look at the working of an exchange traded futures contract.

**Working of futures:** The clauses of a futures contract, traded on the exchange, are generally standardized in respect of the following items:

- Quantity of the underlying asset
- Quality of the underlying (not required in financial futures)
- Date and month of delivery
- The units of price quotation (not the price itself) and the minimum change in price (tick-size)
- Location of settlement

The settlement price is agreed to between the parties.

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When a futures contract is opened, the exchange prescribes a minimum amount of money to be deposited by both the parties to the contract with the exchange. This original deposit of money is referred to as the initial margin. The exchange also prescribes a maintenance margin, which is the lowest amount an account can reach before being replenished again. This must be distinguished from initial margin, which is merely the minimum deposit required to enter into a futures contract. When the margin amount falls below the maintenance margin, a margin call is made requesting infusement of additional funds so as to bring up the level back to the initial margin. Let's say that the initial margin was Rs. 1000 and the maintenance margin Rs. 500. A series of losses reduced the amount to Rs. 400. A margin call may be made requiring infusement of additional funds.

To understand how futures trade, let us consider the following illustration.

**Illustration:** A enters into a contract with B for sale of 100 Kgs of rice at Rs. 10 /kg at a later date. The settlement price for this future is, therefore, Rs. 1000. Let's assume the initial margin requirement to be Rs. 100 (at 10%). Therefore, on the first day of trading, both A and B will have Rs. 100 each in their accounts. Now A has taken the short position because he thinks that the price of rice would decline whereas B has gone long fearing the prices to rise.

**Mark-to-Market:** On the next day, if the price of rice were to rise to Rs. 11, A, would suffer a loss (and B a corresponding gain) of Rs. 100. In other words, Rs. 100 would be deducted form A's account and the same amount credited to B's account. On the other hand, if the price of rice were to decline, A's account would be credited with Rs. 100 and B's account deducted by the same amount. Therefore, all profits and losses are settled on a daily basis. This is known as the mark-to-market system.

**Liquidation:** If either of the parties wants to liquidate his position in the futures contract, he can do so by entering into an equal and opposite transaction to the one that opened the position. This is called an offsetting transaction. Consider the above example.

Let's say the settlement price dipped to Rs. 900 and the farmer made a profit of Rs. 100 in the process. Now he wants to liquidate his position so that he retains the profits already made without incurring any further risks of loss. He can do so by entering into an identical and opposite transaction to achieve the same

**Settlement:** A futures contract that is not liquidated before its expiry may be settled in either of the following ways:

**Physical Delivery:** This involves the delivery of the underlying asset by the seller to the buyer in accordance with the rules of the Exchange. However, the exchange generally discourages such physical delivery through the exchange as it makes the exchange vulnerable to arbitration in case of default by either of the parties.

**Cash Settlement:** Cash settlement is an important advance and has broadened the reach of derivatives to products like stock indices where physical delivery is not possible. In cash settlement, the underlying asset is not physically delivered on the expiration of the contract.

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Instead all open positions are settled by payment of cash based on the difference between the final settlement price and the previous day's settlement price.

Theoretically the final price of the futures contract and the spot **market** price of the underlying commodity must converge and be the same. However, this rarely happens and many exchanges are known to deem the final settlement price of a futures contract to be equal to the spot **market** price. In other words, the terminal settlement price is assumed to be equal to the prevailing spot **market** price and cash settlement is effected by computing the difference between the prevailing spot **market** price and the previous day's settlement price.

**Theoretical Pricing of Futures:** The price of a future is derived from the price of the underlying asset of the futures contract. In other words, the settlement price of the futures contract is the same as its settlement price.

As explained above, the settlement price in a futures contract is never standardized but is agreed to between the parties. This takes place by way of an offer – bid system. However, a theoretical way of determining the value of a futures contract may be summed up in the following formula:

Futures Price = Spot **Market** Price + Cost of Carry

Cost of carry is the sum of all costs incurred if a similar position is taken in the cash **market** and carried to the expiry of the futures contract, less any revenue that may arise out of holding the asset. The cost typically includes interest cost in case of financial futures (insurance and storage costs are also considered in case of commodity futures).

**Market Participants:** The following are the broad category of **market** participants in futures trading:

**Hedgers:** Hedging is a sophisticated mechanism which provides the necessary immunity to the above interests in the **marketing** of commodities from the risk of price fluctuations. It basically involves the purchase or sale of a futures contract to reduce or offset the risk of a position in the underlying asset. A hedger gives up the potential to profit from a favourable price change in the position being hedged in order to minimize the risk of loss from an adverse price change.

A hedge may be either short or long. A short hedge involves a short position in futures contracts. It is appropriate when the hedger already owns an asset and expects to sell it at some time in the future or even when an asset is not owned right now but will be owned sometime in the future. Take, for instance, a farmer who expects a harvest only after 6 months and is unsure about the price fluctuations. To hedge this risk, the farmer can enter into a futures contract for sale of rice, 6 months from now, at the prevailing **market** price.

Hedges that involve taking a long position in a futures contract are known as long hedges. A long hedge is appropriate when a company / individual know it will have to purchase a certain asset in the future and wants to lock in a price now. Taking the same example as

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above, if a consumer is uncertain about the price movements of rice, he can hedge his risk by going long a futures contract at the prevailing **market** price. This would neutralize his position in case of inflation. Though hedging protects from price risk, a hedged position often suffers from basis risk. Explain elaborately

**Speculators:** Hedging on futures **markets** cannot be practiced unless there are operators willing to assume the risk of adverse price fluctuations, which the hedgers desire to transfer. These operators are called speculators. Their presence in the futures **market** is inevitable as they provide liquidity to the **markets**. Unlike hedgers, speculators aim to benefit from the inherently risky nature of the futures **market**. They do not seek to actually own the commodity in question. Rather, a speculator enters the **market** to make profits by offsetting rising and declining prices through the buying and selling of contracts. The basic distinction between a hedge and a speculative transaction on a futures **market** is that in case of a hedge there is a corresponding transaction in the ready **market**, which is absent in case of speculation. In general, a speculator takes a view on the **market** and plays accordingly. If one is bullish, one can buy futures and if one is bearish one can sell futures. For e.g. a person who expects the price of Reliance stock to increase by March can buy a March Reliance security futures contract. If the price of the stock rises, he will make a profit on the futures and can liquidate his position to freeze his profits.

**Arbitrageurs:** Arbitrage is the simultaneous purchase and sale of similar commodities or securities, such as derivatives, in different but related **markets**, in the hope of gaining from the price differential. Arbitrage opportunities arise when there is a difference between the spot and futures prices.

### C. OPTIONS

An option is a contract between two parties wherein the buyer receives a privilege for which he pays a fee (premium) and the seller accepts an obligation for which he receives a fee.. It gives the option buyer the right but not the obligation to buy or sell an underlying at a specific price on or before a certain date. The underlying asset can be stock, index, commodities, futures, interest rate etc.

Let's understand this with the help of an example. Let's say there is a plot of land which Mr. A wishes to purchase but does not have sufficient cash to buy it for another one month. After negotiations with the owner, a deal is struck whereby the owner gives Mr. A an option to buy the plot in one month's time for a price of Rs.10 lakhs. For buying this option Mr. A does not have to pay Rs.10 Lakhs but only a fraction of this amount, as agreed to between the buyer and seller, let's say Rs50, 000.

The seller of an option is called an option writer, the buyer of an option is called an option holder, the right to buy an option is called a call option, the price which the option holder pays for buying the option is called the option price or the premium and the price at which the option is exercised is called the strike price or the exercise price.

After buying this option, either of the following two situations may arise.

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If the **market** value of the plot increases, Mr. A will exercise his option of buying the plot for the agreed price and then may sell it again for making a profit by way of difference between the price he paid and the present **market** value of the plot. The option holder has only the right and not the obligation to buy or sell the underlying asset but the option writer is obligated to sell or buy, if the holder exercises the option.

Or, if the **market** value of the plot shows a downslide, Mr. A will not exercise his option of buying the plot, in which case his loss will be limited to the initial amount of Rs.50, 000 paid by him, to the seller.

Thus, by using an option, Mr. A is able to limit his loss from future depreciation in value of the plot and is also able to profit from any increase in the value of the said plot.

Unlike futures where both the parties are required to maintain a margin as performance bond, in options only the buyer's performance bond is in the form of the premium paid to the seller.. Seller is required to pay a margin as his performance bond. Further, in options the premium paid by the buyer is forfeitable unlike futures where the performance bonds of the parties are maintained with the exchange and are not forfeitable. Options in India are traded over the exchange as well as OTC.

### **Kinds of options**

1. **Call option** - A call option gives the option holder a right to buy an asset at a certain price within a specified period of time. A call option buyer is said to have a long position..
2. **Put option** - A put option gives the option holder a right to sell an asset at a certain price within a specified period of time. A put option holder is said to have a short position..

**Option Pricing:** Option price is the price which the option holder pays to the option writer for buying a particular option. Theoretically, it is the supply and demand in the secondary **market**, which drive the option price. Greater the demand for the underlying higher will be the option price and vice versa. To understand option pricing, it becomes necessary to define certain terms.

Intrinsic value of an option is the amount of money that could currently be realised by exercising the option at its strike price. An option is said to have an intrinsic value when the option is in-the-money. When an option is at-the-money, the intrinsic value is zero.

Time value is the amount of money, which the option holder is willing to pay and the option writer is willing to accept, over and above any intrinsic value of the option. Time value of an option declines as the option approaches maturity because the volatility in the price of the underlying reduces.

Reducing option price to a formula it can be said that : Option price/premium = Intrinsic value + time value.



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In addition to the intrinsic value and time value, price of an option depends on the price of the underlying, strike price, volatility in the price of the underlying and risk free rate of interest.

### **Working of Options**

**Illustration:** On 1st Jan 2006, stock of Wipro is trading at Rs.50 and the premium for a March 55 Call is Rs.5. This means that the expiration date for the option is last Thursday of March and the strike price is 55.

Let's say Mr.A has information that the **market** is bullish and he makes a decision of buying a March 55 Call. The total price of the option is Rs.500.

For an option holder to exercise his option, it must yield profit. In other words, it must have crossed the break-even point. Break-even point for a call option is the point where the value of the underlying has crossed a price, which is all inclusive of the option premium, strike price and the transaction costs. In this case, the breakeven point will be Rs.60.

After buying the option, till its expiration, there are three things that Mr.A can possibly do with the option.

1. **Exercise the option** - An option can be exercised any time before its expiration. In the above example, if on the day after buying the option the value of the stock rises to Rs.110, Mr. A may exercise his option to buy the stock at Rs. 50, in which case he makes an immediate profit of Rs.600 (mark-to **market**) less the premium paid by him (Rs.500). After exercising his option he may either continue to hold the stock in anticipation of further price increase or may sell it in order to make a further profit of Rs. 6,000 (difference between the prices paid to buy 100 shares, i.e. Rs. 5,000 and the price at which shares were sold in the **market**, i.e. Rs. 11,000).

2. **Continue to hold the option till expiry** - If a favourable price change has not occurred yet, Mr. A may continue to hold the option till the expiry date still hoping for the anticipated change. If it does not occur till the last day of trading, the option will not be exercised and will expire worthless. Loss of Mr. A in not exercising the option will be limited to Rs.500 (the premium).

3. **Offset the option** - An option that has been previously purchased or written can generally be offset at any time prior to its expiration by making an offsetting sale or purchase. Most option investors choose to realize their profits or limit their loss through an offsetting sale or purchase. It must be remembered that the **market** may not always be favourable for offsetting an option position.

**Market participants:** Players operating in options are the same as those in futures market.

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**Hedgers** – Like futures, options can also be used for hedging. In case of an unfavorable movement in the value of the underlying the maximum that a buyer can lose is the premium paid for the option, although the profit he can make is unlimited.

**Speculators** – Speculators use options to gain from the movement (either ways) in the value of the underlying. They are willing to take risks in order to profit from price changes in the underlying. A speculator will buy an option when the strike price for the option is less than the value of the underlying and will exercise such option in order to realise the profits because of the difference between the two prices. Similarly he will sell an option when the strike price for the option is higher than the value of the underlying.

**Arbitrageurs** – An Arbitrageur seek to make a profit from the difference in the prices in two **markets** by making simultaneous transactions in two different **markets**. For example, an arbitrageur will buy in the spot **market** and sell an option or sell in the spot **market** and buy an option. If the price of sugar in spot **market** is Rs.15 per kg and the strike price for option in sugar is Rs.12 per kg, to make a profit the arbitrageur will buy a call on sugar, exercise his option for buying the sugar at Rs.12 and then sell the same in the spot **market** thereby realizing a profit of Rs.3 on every kg of sugar sold.

These three players increase the volatility in the **market** and make it more conducive for trading in options.

**Trading strategies - Participants in the market use different strategies to maximize their profit or minimise their loss. Some of the commonly used strategies are discussed below.**

1. **Straddle** – In straddle, the trader benefits from **market** movement in either direction. It is often called a neutral strategy. When a trader has information that a stock is about to make a big move but is unsure of the direction of the move, he will buy and sell the same number of puts and calls at the current **market** price and will be able to make a profit on large **market** movement in either direction.

Illustration- A stock is trading at Rs.80 per share. Knowing that a large movement is likely in the price of the stock, Mr. A buys a call and a put option at strike price 80 for a premium of Rs.7.50 and Rs.7 respectively.

Now, if the stock moves upwards to Rs.110 the call option will be worth Rs.30 and put will be worthless. Similarly, if the stock slides to Rs.50 the call will be worthless and the put will be worth Rs.30.

If the option price for the call is Rs.7.50 and for the put it is Rs.7, the total cost of the straddle will be Rs.14.50. Thus Mr. A's loss will be limited to Rs.14.50 per share in case of any unfavourable movement in the price of the stock.

Mr. A will make a profit when the upside breakeven point is crossed, i.e.  $Rs.80 + Rs.14.50 = Rs.94.50$  and also when the downside breakeven point is reached, i.e.  $Rs.80 - Rs.14.50 = Rs.65.50$



2. **Strangle** – This is also a neutral strategy where the trader will benefit from **market** movement in either direction. Here, a call and a put option are bought when they are out-of-money. A strangle is less risky than straddle because it is usually initiated with less expenses by buying options when they are out-of-money.

Illustration - Stock of Infosys is trading at Rs.65. Mr. A buys 70 Call option which is available for Rs.2.50 and a 60 Put option available for Rs.2.25. So a strangle will cost him Rs.475 (Rs.4.75 x 100). With the stock anywhere between Rs.60 and Rs.70 the maximum loss that Mr. A will suffer will be Rs.475. When the stock moves to anywhere below Rs.55 or above Rs.75 the position will begin to show a profit.

3. **Protective Puts** – A trader who buys physical stock can protect himself against falling stock prices by buying a put at the strike price or two below the strike price.

Illustration – If Stock of Hindustan Lever is trading at Rs.50 it will take Rs.5, 000 to buy 100 shares. If Mr. A buys the shares, his downslide risk will be limited to Rs.5, 000 and he may have unlimited upside reward. But by buying one protective put at strike price Rs.45 for a premium of Rs.200 (Rs.2 x 100) Mr. A will be able to limit the amount that he will lose if the stock falls. So, no matter what the stock prices fall to, the combined position will always be worth Rs.4, 300.

## II. AGRICULTURAL MARKET IN INDIA

Indian agricultural **market** is experiencing tremendous trading in futures and options. The commodity derivative **market** in India was banned for more than five decade and was resumed only in late 2003. At the end of March 2005, the daily turnover of commodity derivatives on three multi commodity exchanges in India (MCX, NCDEX, NMCEIL) was recorded to be over Rs.5, 500 Crores[34]. This section shall discuss the trading of agricultural produce in mandis, e-choupals and over the exchange.

### A. MANDI SYSTEM

Agricultural **markets** in India have been in existence for centuries. Prior to the introduction of the futures **market** in India, the Mandi system was and still is the dominant **market** for agricultural produce. All agricultural commodities in India trade in wholesale **markets** or mandis where the price of the commodity is set. These mandis are limited by geographical locations where producers and buyers meet to trade their goods. The prices in mandis are largely restricted to local fluctuations in demand and supply. Mandis are set up only with the permission of the state government. Each state has a State Agriculture **Marketing** Board (SAMB), which sets up mandi boards at the district level. Mandis are set up and monitored by the mandi board, which has representatives both from farmer and trading communities. A mandi starts with the goal of trading a principal commodity. Every mandi trades in at least one primary commodity specific to the region. As the seller brings the produce to the **market**, it is first weighed and both the type and quantity are recorded at the entrance by the mandi inspector. The seller is given a certificate of the type and quantity. Once the produce is recorded at one mandi, there is no double counting of the produce in other mandis.

Traders are permitted to intermediate between the farmers and the wholesale dealers once they obtain a license from the mandi. There are two methods of trading in the mandi. One is the dealer **market** where the seller approaches the trader for a favourable quote and on finding the same; the produce is considered sold to the trader. Second is the open out-cry auction. Traders have to clear their deals with the buyers and sellers immediately. At the time of clearing the trade with the seller, the produce gets inspected by the trader for quality. At the close of the trading day, traders have to report both the prices and the volumes to the mandi. Farmers bring their goods to the mandi and deliver it to the trader to whom they sell. Traders in turn get the produce picked up by the buyers. Mandi trader is a counterparty to both the farmers and the buyers.

However, mandi system suffers from a host of problems. As mandis are scattered throughout the country there is no uniform pricing system. Absence of reliable source of price information makes farmers rely on local mandis and are left at the mercy of unscrupulous traders. If prices across the country are accessible to the farmer, he will be able to evaluate his ability to incur transportation cost to access better prices. This will also help reduce arbitrage opportunities wherein an arbitrageur buys for less in one mandi and sells for more in another mandi. Lack of standards and certification is another problem which mandis are faced with. Standardisation of commodities will help in quoting and comparing prices across the country. Mandis or the **spotmarkets** are being regulated in a manner, which directly impacts the spot prices. Some of such adverse regulations are in the form of minimum support price, minimum and maximum price bands for specific commodities, quotas, reservations, and procurement through Food Corporation of India. Also, as agriculture is a state subject, the instruments of regulation vary from state to state. Since the existence of a viable commodity derivatives **market** is primarily dependent on the existence of large, competitive and transparent spot **market**, there is a need to strengthen the same.

### **E-CHOUPALS**

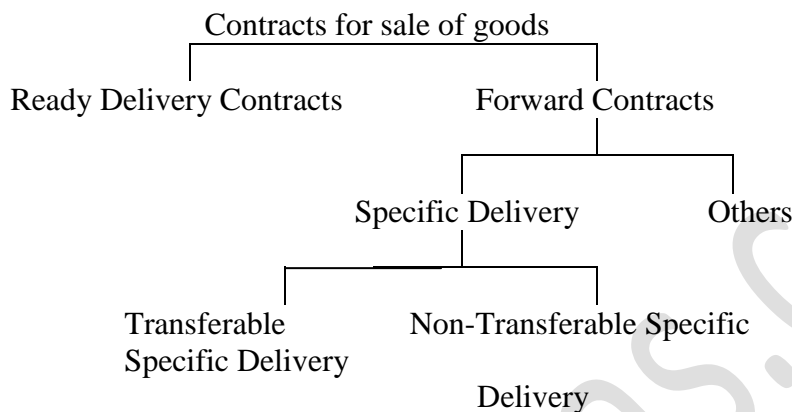
A private initiative, started by ITC, that has been specifically designed to tackle the challenges posed by the unique features of Indian agriculture (mandis), characterised by fragmented farms, weak infrastructure and the involvement of numerous intermediaries. It was launched in June 2000. Appreciating the imperative of intermediaries in the Indian context, ‘e-Choupal’ leverages Information Technology to virtually cluster all the value chain participants. It makes use of the physical transmission capabilities of current intermediaries in aggregation, logistics, counter-party risk and bridge financing, while disintermediating them from the chain of information flow and **market** signals[38]. The computer network empowers the farmers to get more accurate weather forecasts, to communicate with distant farmers about techniques. No charity, international organisation or government agency is involved [39]. The archaic mandi system leaves the farmers with no choice but to sell their crops in an auction at a government mandated **marketplace**. The farmers are left at the mercy of the trader who operates the mandi, because the grain is sold by auction and once the farmers go to a mandi they cannot go elsewhere if a final bid from a purchasing agent is low or unfair[40]. “E-choupal” helps to side step the mandi system by allowing farmers to sell their produce directly to companies.

### III. REGULATORY REGIME

The primary legislation in India governing futures contract is Forwards Contract (Regulation) Act, 1952 (hereinafter referred to as “the Act”).

#### A. CONTRACTS

Under the Act, the contracts for sale of goods have been subdivided as follows:



The Act defines a forward contract as a contract for the delivery of goods at a future date, and there must be a gap of over 11 days between entering into the contract and performance.

Ready delivery contract is a contract where the delivery and full payment is made within 11 days from the date of entering into the contract[42]. Such contracts are outside the purview of the Act.

The Act recognises two types of forward contracts viz, non-transferable specific delivery and transferable specific delivery contract.

**Specific delivery contract** - A contract that contemplates actual delivery of specific quantities of goods, during a specified time period, at a price fixed by the parties.

**Non-transferable specific delivery contract** – In this type of contract the terms of delivery and full payment are specified beforehand and the delivery and payment must occur between the original buyer and the seller. Duration of the contract is much longer than 11 days. Buyer and seller cannot transfer their rights and liabilities under the contract, to a third party.

**Transferable specific delivery contract** – Here the terms of delivery and payment are specified but the buyer/seller can transfer their rights and liabilities to a third party.

Under the Act all options in goods have been declared illegal in India although trading in options where the underlying is a futures contract is permissible.

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**Futures Contract** - It has not been specifically defined under the Act. Unlike a merchandising contract the overriding purpose of futures contract is not to take or give delivery of goods but to square up the transactions and make the settlement on the basis of change in the prices[47]. In other words, futures may be defined as a forward contract, which is not a specific delivery contract. Futures contract, as distinguished from a forward contract is a highly standardised contract.

## **B. REGULATORY BODIES**

There are three authorities, which regulate trading in forward contracts in India.

- Recognised Association·
- Forward **Market** Commission (FMC)
- Central Government

Before discussing the role of these three bodies, it is important to note the need for government regulation in the futures **market**.

Some form of regulatory pattern is already available in the form of the very nature of futures trading, as futures are standardised contracts, which presuppose an agreement amongst the different interested agencies as well as an organisational structure, which can enforce performance of these contracts. However, role of the government is inevitable because the future trading has wider repercussions on price dissemination affecting traders in the futures as well as the spot **market**[48]. Also, realising that speculation is an integral part of futures trading, regulating the same becomes essential.

**1. Recognised Association** – Any association concerned with the regulation and control of forward contracts, desirous of being recognized for the purposes of the Act, has to make an application to the Central Government [49]. When the central government decides that futures/forwards trading in a particular commodity needs to be permitted in a particular area, it may apply Section 15 of the Act to that commodity, in respect of that area and such futures/forward trading can be conducted only between or through or with the members of such recognised associations. Working of the association is regulated by the FMC and the central government. Their constitution and byelaws have to be approved by FMC as soon as recognition is granted.

Regulations of a recognised association, Multi Commodity Exchange, shall be discussed at length in the next section.

**2. Forward Market Commission** – Central government has established a body called Forward **Market** Commission under Section 3 of the Act, for the purpose of regulating trading in forwards contracts. FMC derives its powers from the Act. Functions of FMC are elaborated under section 4[50]. The byelaws usually provide that without the approval of FMC, the association cannot commence trading in any new delivery, alter ordinary margin, exercise any of the emergency powers, suspend trading etc. The recognised association cannot conduct trading without the approval of FMC.

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The office of FMC is divided into three broad divisions

a) **Commodity Division** – It conducts studies in commodity economics, examines the need for permitting or for banning forward trading under the Act, maintains a close watch on the price trends, examines proposals for recognition of association etc.

b) **Enforcement Division** – It enquires into complaints regarding illegal forward trading, assists the local police in organising raids at centres where illegal trading may be taking place. It organises periodical training courses for police officers from various states to educate them on the enforcement aspects of the Act.

c) **Administrative Division** – It provides necessary secretarial assistance to the commodity and enforcement divisions and looks after budgeting, cash and audit.

In addition to above, FMC also undertakes research activities in the following, inter alia:

- Extent of the use of recognised association for hedging.
- Effectiveness of the regulatory measures to facilitate hedging and curb excessive speculation
- Correctness or otherwise of futures price as forecast of futures trend of prices.

**Central Government** – Under the Act, regulation and control over futures trading and over recognised associations organising such trading is primarily the responsibility of the Central Government. Powers of the Central Government include the authority to grant recognition to an association, withdraw recognition, appoint directors on the governing body of the association, direct the association to make or amend rules, approve the amendments to its rules and bylaws, suspend the business of the recognised association, supersede the governing body of the association, prohibit futures/forward trading, notify the commodities for which and areas in which futures/forward trading is permitted, exempt transferable delivery contract from regulation, exempt any futures/forward contracts from any or all provisions of the Act.

### **C. RULES FOR TRADING, SETTLEMENT AND RISK MANAGEMENT: MCEX**

A study of the regulatory mechanism of the commodities **markets** of India would necessitate a look at the regulations administering the actual trading of the commodity derivatives. As aforesaid, such trading is regulated by the rules, regulations and bye-laws of the exchange on which the trading takes place. Although different exchanges have different rules governing such trading, the broad framework of all such rules remains the same. This is because all such rules and regulations require the approval of the FMC before they come into force. However, for purposes of brevity and specificity, this paper shall restrict itself only to the rules and bye-laws of the Multi Commodities Exchange (MCEX), bringing out the broad framework of such regulations.

### **TRADING**



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**Margin:** All the exchange members are required to pay security deposit of Rs. 3.50 lakhs and an admission fee of the same amount at the time of admission. This amount is considered as the member's contribution towards initial margin deposit, for the purpose of allowable exposure limit. If a member wishes to create more exposure, he has to pay additional deposit. The concept of allowable exposure limit on payment of a security deposit is akin to that of "maintenance margin" as already explained.

Initial margin requirement is calculated by applying the margin percentage applicable for a contract on the value of the open position of a member in that contract. If a member has net open position in different contracts of the same commodity, he is required to pay margin separately on each of the contracts. Similarly, if a member has open position in various commodities, the total amount required is calculated as sum total of margin required in respect of each commodity and contract separately.

Initial Margin is computed in the following manner:

**Intraday:** During the trading session, the margin is calculated on the absolute difference between total sales in value terms and total buy in value terms in respect of all transactions executed in a contract during the day, in addition to previous day's open position carried forward at the official closing price of previous day.

**End of Day:** At end of trading session, the margin amount is computed on net position in a contract in quantitative terms multiplied by the official closing price.

**Order – Bid System:** Unlike the other standardized terms of a futures contract, the settlement price is agreed to between the parties and not prescribed by the exchange. As the parties trading over the exchange are rarely known to each other, the settlement price is fixed by a system of orders and bids facilitated by the exchange.

At the time of making a contract available for trading on the system, the exchange fixes a notional price based on the spot **market** price of that commodity on the previous day and a notional carrying cost. This is known as the Base Price. For all subsequent days, the base price is taken to be equal to the official closing price of a contract for the previous trading session. Further, the Exchange also notifies a daily circuit filter limit for commodities. This provides the maximum range within which a contract can be traded in a session.

A seller / buyer who want to trade on the exchange makes an offer to sell / buy a particular commodity at a certain price within the aforesaid circuit filter limit ("order"). Such orders are then matched by the exchange on price-time basis [61]. The exchange also follows a rule where the highest buy price (best buy order) is matched with the lowest sell price (best sell order). After matching, the settlement price is fixed as between the particular seller and buyer who made the orders. This settlement price, agreed to between the parties, is also called the contract rate.

At the end of the trading day the exchange fixes a settlement price which is calculated by taking an average of the Opening, Closing, Highest, and Lowest prices. This price is used by the exchange as base price for next day's trading.



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**Mark-to-Market:** As explained above, settlement takes place on mark-to-**market** basis in an exchange. It takes place on a daily basis and the daily settlement price is determined in respect of each contract month and for each underlying commodity. Accordingly gains / losses are credited / debited / from the party's account, as the case may be. These gains and losses are also calculated on a daily basis by computing the difference between the previous settlement price and the subsequent settlement price. In case of contracts coming under settlement for the first time, difference is calculated between the contract rate and the settlement price. This daily settlement of gains / losses is called **Mark-to-Market**.

## **FINAL SETTLEMENT**

All outstanding transactions can be settled in either of the two following ways:

1. **Physical Delivery:** The exchange prescribes an elaborate procedure to be followed to affect a physical delivery. All deliveries have to be tendered by members on designated tender days only in the form of delivery orders issued in favor of the buyers and within the delivery period [64. Such delivery orders are compulsorily to be tendered by all members keeping an open position at the close of business on the contract expiry date. In case a member fails to do so, the exchange will impose a penalty on him and close out his position at the due date rate.

The exchange mandates all members having outstanding positions to submit, one day prior to the commencement of delivery period, their intention to tender or lift delivery, as the case may be, along with details of quality, quantity, delivery centre etc. However, if he does not submit such intention, the member will not be allowed to tender / lift delivery and will have only two options:

- (i) To square off his position anytime before contract expiry; or
- (ii) To settle his position as per due date rate in case he fails to liquidate as aforesaid. However, in case the position is settled as per due date rate, the member is subject to pay a penalty of 5% of the due date rate.

When a contract enters into the delivery period, delivery margin is also imposed on both, the buyer and seller, and it continues up to the settlement of delivery obligation or expiry of that contract.

The delivery order also specifies a price (delivery order rate) at which delivery is to be made. The delivery order rate is the settlement price of the concerned contract on the day on which delivery is tendered. In addition to this, the seller and buyer also receive from or pay to the clearing house, the difference between the last settlement rate and the delivery order rate.

The exchange thereafter assigns the delivery order to any of the members holding long open positions. Such assignment is at the discretion of the exchange and is final and binding upon the buyer.

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After assignment, the buyer pays 100% of the value of the delivery order on or before the second working day from the date of assignment of the order. Further, the buyer may also endorse this delivery order in favour of his client provided that such endorsement may be done only once.

Each delivery order is accompanied by a certificate from an approved surveyor as regards physical verification and certification quantity of stocks in possession of the tenderer, at designated delivery centres and quality specifications in conformity with the specifications of the grade being tendered. In case the buyer does not agree with the surveyor's report, he can go for a second sampling. The members tendering delivery have the option of delivering such grades of commodity as permitted by the exchange but the buyer has no such option of lifting only a particular grade.

The tender and receipt of warehouse receipts or any other document of title to goods by issue of delivery order in settlement of a contract will be considered as delivery by the exchange. Delivery is treated as complete when the seller supplies a quantity that is within the minimum and maximum quantity prescribed by the exchange. Thereafter the exchange pays the invoiced amount received from the buyer to the seller.

**2. Cash Settlement:** All contracts outstanding at the end of the last trading day of the contract month of the maturing contract are closed-out by the relevant authority at the due date rate. Due date rate with respect to a contract means the average of the closing prices of the last 5 trading days of the contract maturity or the average of last 5 days closing price in spot **market**, whichever is higher.

## **RISK MANAGEMENT**

One of the advantages for parties trading on the exchange is that they are not subject to counter party risk. As the exchange takes upon the burden of guaranteeing the financial obligations of the parties, it has put together an elaborate system of risk management to limit its liabilities.

Firstly, a member is allowed to trade only upon payment of minimum security deposit of Rs. 3.50 lakhs. This deposit determines the allowable exposure limit for the member and he cannot cross this limit without paying additional deposits. All such contributions from the clearing and trading members form part of the Settlement Guarantee Fund maintained by the Exchange. The funds can be used for a limited number of purposes only.

In case the Settlement Guarantee Fund falls short of funds and there still exist outstanding liabilities, these obligations shall be assessed against all the clearing members in the same proportion as their total contribution and deposit towards security deposit, and the clearing members shall be required to deposit such amount within such time as may be prescribed.

Secondly, during a trading session, the system keeps track of loss, both notional and booked, incurred by every member up to the last executed trade (Mark to **Market** Loss Monitoring). This is done by computing the difference between the actual trade price of a member and the

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last trade price of the **market**. Every time such loss amount goes beyond the levels of 50%, 60% or 75% of the total deposits of the member, the member gets a warning signal. Thereafter, when it crosses the 75% limit, the member is suspended by the system.

Thirdly, the exchange also limits the maximum open position in any commodity across all members to be around 75% of the size of such commodity in India. This is done to avoid building of huge open positions in any commodity.

Fourthly, the exchange also prescribes the imposition of a special margin in case of excessive volatility in price fluctuations. This margin is imposed when during a trading session, price fluctuation is more than 50% of the circuit filter limit applicable on that contract compared to the base price of the day.

### **CONCLUSION:**

Fragmentation of the Agricultural **market** and price differentials in agricultural produce is only some of the problems confronting Indian Agriculture. The government has recognized the fact that for the country to constantly grow at 7% to 8%, it is imperative that agriculture grows at a faster pace. Permitting trading in futures and setting up of national commodity exchanges are only a few steps towards the fulfilment of this objective. The government needs to do away with the artificial pricing of agricultural goods in the form of “minimum support price” and legislations like the Essential Supplies Act. Further, the government must also remove the ban on the trading of other derivatives like options. However, it is also imperative that the exchanges be made more transparent with respect to pricing of futures. Demutualization of commodity exchanges would be a welcome step in this direction.

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