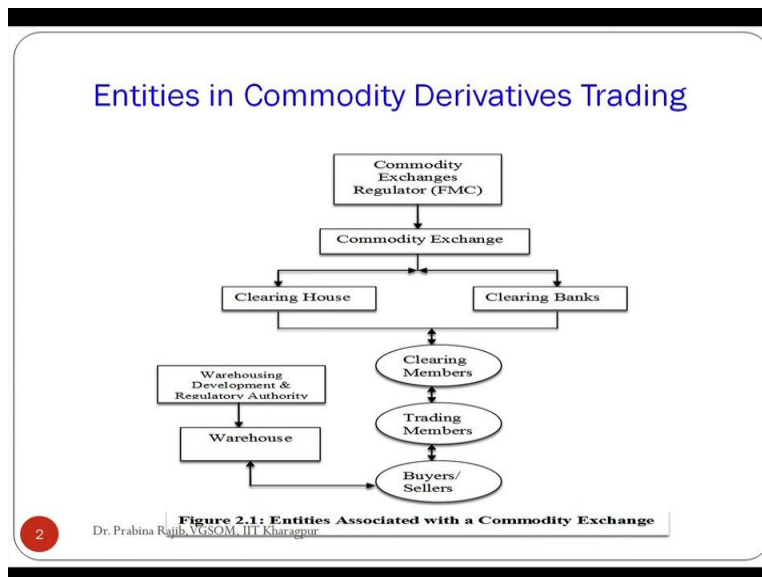


Commodity Derivatives & Risk Management
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Lecture 03
Futures Contracts Specifications

Welcome to the third session on commodity derivatives and Risk Management. In this session we will be discussing more about futures contract specifications, that is different aspects of futures contract specification.

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But before I go to that discussion, I would like to discuss little more on little bit on which are the which are the entities which are associated with the commodity exchange.

Let us say a commodity exchange is regulated by a commodity exchange regulator. Of course now we do not have a commodity exchange regulator persuade forward market commission has been merged with security exchange board of India. So we have Security Exchange Board of India (SEBI) as a regulator, we have commodity exchanges in the commodity exchanges. We can have a you know MCX, NCEDEX or regional commodity exchange.

And Beside a commodity exchange you also have other entities such as, clearing house, clearing banks and different ware houses which are associated with a commodity exchange for delivering the underlying goods.

Now, whenever a party who is interested to take derivatives contract in an exchange platform it cannot do so on its own. It has to go through a trading member. Let us say let us say Kotak securities or Share khan or Relicare Security, different brokers which provide us the platform for buying and selling derivatives contract. So buyers and sellers have to go through a trading member and these trading members also have to go through another set of entities called Clearing members.

And, in the next slide I will discuss little more on what is the difference between or what are the responsibilities of trading members and a clearing members.

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Member Categories Associated with a Commodity Exchange

- **Trading Members**
 - Trading members provide the **same functions as that of brokers in a stock market**. Buyers/sellers intending to trade commodity contracts must channelize their trades through a trading member.
- **Clearing House & Clearing Members:**
 - “Clearing House” means a division of the Exchange or any agency identified by the relevant authority or any independent entity such as Clearing Corporation set up and empowered suitably to **act as a facilitator for processing of deliveries and payments between clearing members / trading members and participants for trades effected by them on the exchange**” (NCDEX FAQ)

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Trading members are exactly; provide the same function as that of the brokers in a stock market. So, whenever any party is interested to take long or short futures contract, they have to channelize that trade through the broker. In fact for stock exchange we you know if I am interested to buy or sell derivative contracts, I do not you know, the exchange does not recognize me exchange recognizes me through the broker, through my broker.

Now, besides the trading member, each exchange also has a clearing house and clearing members are the members of the clearing house. And the clearing house provides a very very important, function for their commodity exchange. So, what exactly a clearing house does? This particular quote unquote which I have mentioned in the slide, it is the from NCDEX frequently asked question.

So, clearing house means a division of an exchange or a agency identified by the relevant authority or any independent entity, such as clearing corporation setup and empowered suitably to act as a facilitator for processing deliveries and payment between clearing members, trading members and the participants for trades effected by them on the exchange.

So here, I would like all of you to focus little on those set of words. “It acts as a facilitator for processing delivery and payment”. So the responsibility of ensuring that the buyers and sellers of derivative contracts are paid in timely manner or whatever they are supposed to pay to the exchange. Or whatever they are supposed to pay or receive pay to the exchange or receive from the exchange that is you know done on a orderly manner, and that responsibility lies with the clearing house.

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Trading, Clearing and Settlement Activities		
Trading Activities	Clearing Activities	Settlement Activities
<ul style="list-style-type: none"> • Order receipt • Order matching and execution based on <ul style="list-style-type: none"> ○ Price and time limits ○ Position limits • Reporting of executed trades 	<ul style="list-style-type: none"> • Novation • Margin calculation • Margin reporting 	<ul style="list-style-type: none"> • Margin payment and Receipt. • Delivery payment and receipt on expiration.

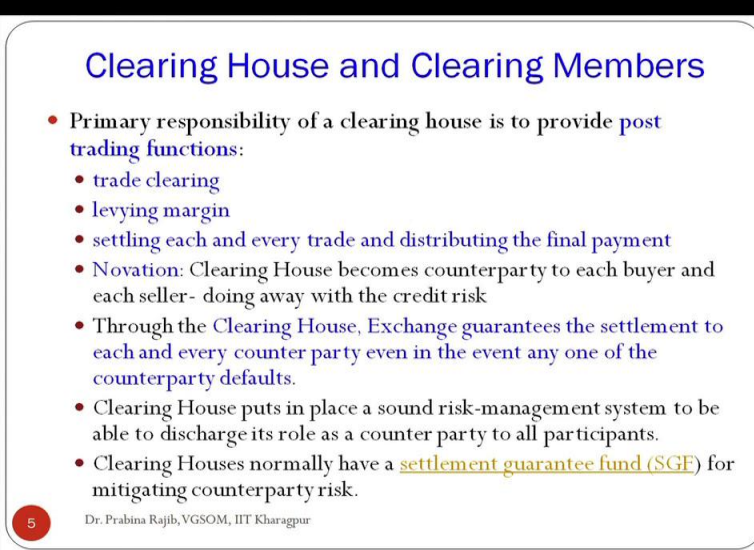
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This particular table clearly identifies, what are the different responsibilities of or what are the different activities under the trading category and clearing and settlement activities category. Trading activity under trading activity you have order receipt so whenever buyers or sellers are giving any order, so that comes under the trading activity order that comes under trading activity. So receipt of order, order matching advance the order gets matched that means for every buyer seller buyer and seller order gets matched.

The reporting of the executed trades to the buyers and sellers of the derivative contract, all these activities are the part of the trading activities. Post trading the old activities, remaining activities like margin calculation, margin collection, margin reporting margin payment and receipt, delivery payment and receipt on the expiration all these become the responsibility of the clearing house. And this clearing house appoints clearing members and the members are responsible for ensuring that all trades are cleared smoothly. Clearing house also provides very important important role in the whole ecosystem of commodity derivative trading that is the Novation. So what exactly is Novation?

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Clearing House and Clearing Members

- Primary responsibility of a clearing house is to provide post trading functions:
 - trade clearing
 - levying margin
 - settling each and every trade and distributing the final payment
- Novation: Clearing House becomes counterparty to each buyer and each seller- doing away with the credit risk
- Through the Clearing House, Exchange guarantees the settlement to each and every counter party even in the event any one of the counterparty defaults.
- Clearing House puts in place a sound risk-management system to be able to discharge its role as a counter party to all participants.
- Clearing Houses normally have a **settlement guarantee fund (SGF)** for mitigating counterparty risk.

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Novation is a process in which the clearing house becomes the counter party to each buyer and each seller and basically it takes away the counter party risk.

All of you know and we have also discussed that the forward contracts have significant amount of counter party risk, however, futures contract do not have that counter party risk. This risk is taken away by the clearing house. So, whenever let us say, today I am interested to take long futures contract on a on a underlying, let us say, let us say black pepper black pepper, I am interested to take a long futures contract. I give my price quotation and the somebody is interested to take a short futures contract I my order matches and I get a confirmation from the exchange through my trading member that is my broker that my order has been executed.

So I have now a long futures position and some counter party has a short futures position. But, I do not need to know who is my counter party? Whatever I am obligated to pay or whatever I am supposed to receive will be effected through the clearing house and the clearing members. Even if my counter party defaults whatever I am supposed to receive from the exchange, I am going to receive.

So, this is a very very important function provided by the clearing house which brings the order and also maintains the market integrity. Now how does these clearing houses ensure that they are able to take care of all the counter party risk each and every clearing house has to maintain something called as Supplement Guarantee fund. Basically a corpus, in case one counter party or few counter parties default, these clearing houses can dip into that corpus and pay to the counter party.

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Details of Settlement Guarantee Fund as on December 31, 2015

		Rs. In lacs
Sr.No.	Particulars	Total
a.	Initial contribution @ 5% of gross revenue	3,380.61
a(i)	Add : Existing Balance in SGF as on 31.08.13	245.29
b.	Base Minimum Capital of members	7,032.24
c.	Investment Income (Including accrued interest) on Base Minimum Capital	475.09
d.	Annual contribution by the Exchange @5% of Gross revenue of financial year 2013-14	388.41
e.	Annual contribution by the Exchange @5% of Gross revenue of financial year 2014-15	468.94
f.	Investment Income (Including accrued interest) on Settlement Guarantee funds (excluding income on BMC included in 'c' above)	617.39
g.	Settlement penalties from April 14 to Dec 15	190.49
Total SGF as on 31.12.2015		12,798.47

Note: Settlement Guarantee Fund (SGF) has been constituted as per Forward Markets Commission (FMC) revised guidelines dated March 14, 2014.

Now, this particular detail, this particular you know slide which I am showing, this shows the details of the settlement guarantee fund maintained by NCEDEX as on December 31 2015. So as on December 31 2015 the total amount of fund available in the settlement guarantee fund comes to about 127 crore that is 12798 lakhs of rupees. And how this settlement guarantee fund has been created and who has contributed this amount. This is mentioned in this table and if time permits or you are interested to learn more about settlement guarantee fund you can spend some time on it.

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Futures Contract Specification

- Forward contracts are agreed between two parties
 - Non-standardized
 - Bilateral contracts
 - Any underlying (Ex. Mango Pulp, Brass-alloy made of Copper and Tin, Bamboo Poles)
 - Any quantity
 - Any delivery/maturity date
 - Any delivery location
 - Futures contracts are standardized
 - Quality, Quantity, Maturity Date, Delivery, Margin
 - MCX Cotton Futures Contract



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Now let us our todays agenda that is futures contract specification, but before we go to the futures contract specification I would like to make a little you know spend may be half a minute on forward contract specific forward contracts. In case of your forward contracts it is taken, forward contracts are agreed between two parties the non standardized, bilateral contracts it could be on any underlying that is the flexibility of forward contracts. Like, let us say if two parties enter agree one party can deliver mango pulp, one party can deliver brass which is let us say alloy of copper and tin, one party can also you know deliver bamboo poles. So I mean it could be any any any any product as long as both parties agree to it, and it can be any quantity, it can be any delivery or any maturity date, it can be at any delivery location.

So this is great deal of there is a great deal of flexibility associated with forward contract. However, forward contract as you know has a counter party risk. Now let us go to understand more about a futures contract specifications, so as we have read many times that futures contracts are standardized. So when we are talking about the standardization so we mean by quality, quantity, maturity date, delivery margin all these details are standardized.

Now I will take you through the contract specifications given by Indian Commodity Exchange. Just for an example I have downloaded the copy of futures contract of multi commodity exchange so let us go to understand the more on this particular. At this point I would like to mention something from my experience as a teacher of Commodity Derivatives and Risk Management at IIT Kharagpur, I have initially when I was offering this particular subject to MBA students and dual degree financial engineering students, I did not spend you know I did not elaborate in detail different aspects of this contract specification and students used to come to me and ask for clarifications at a later point of time. I realized that I need to spend little longer in explaining the forward contract sorry the details given in the futures contract specification.

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Annexure 1

Contract Specifications of Cotton (29mm)

Symbol	COTTON
Description	COTTONMMYY
Contract Listing	Contracts are available as per the Contract Launch Calendar
Contract Start Day	1st day of contract launch month. If 1st day is a holiday then the following working day.
Last Trading Day	Last calendar day of the contract month. If last calendar day is a holiday or Saturday then preceding working day
Trading Period	Mondays through Fridays
Trading Session	Monday to Friday: 10.00 a.m. to 9.00 \ 9.30 p.m.
Trading Unit	25 bales
Quotation/Base Value	Rs. Per bale (of 170 Kg)
Maximum Order Size	1200 bales
Tick size (minimum price movement)	Rs 10
Price Quote	Ex-Warehouse Rajkot (Within 100 km radius) excluding all taxes, duties, levies, charges as applicable

So today you know we will be spending in this particular session we will be spending the remaining part of this session and understanding various aspects or various details in this futures contract specification. So this as you can see you know from the screen, this is the contract specification from cotton and its not for any cotton it is 29 NM. So, what is the description, this is cotton NM, contract listing so contract listing is contracts are available as per the contract launch calendar.

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Contract Launch Calendar of Cotton (29mm)

Contract Launch Months	Contract Expiry Months
August 2015	January 2016
September 2015	February 2016
October 2015	March 2016
November 2015	April 2016
December 2015	May 2016
January 2016	June 2016
February 2016	July 2016
May 2016	October 2016
May 2016	November 2016
May 2016	December 2016

Let us go to what exactly a contract launch calendar means. This is a contract launch calendar. So this particular contract launch month and contract expiry month, this has got two tables. So, one table has two columns so you have August 2015 and January 2016 respectively so that means during August 2015 a trader whose interested to take long or short position can enter into a contract which is maturing on January 2016. Similarly, A trader in the month of 2015 can enter into a contract which is maturing in February 2016. He is also free to take a contract on January 2016. So, during September 2015 a trader can enter into January 2016 contract or February 2016 contract.

Similarly, let us understand today we are recording this particular session on 10th June2016 so today if a trader or I, let us say I, want to take a cotton take cotton futures contract, I am free to take contracts in the month of June for the month of June 2016. I can also take a contract on long or short futures contract depending on my expectations or my interest. I can take July contract, I can also take October 2016 contract or I can take November 2016 contract or December 2016 contract. So these five contracts are available to me to at this point of time. And this June contract 2016 contract will come to an end at the last working day of the month. So from where I got this information so that is last trading day last calendar day of the contract month, if the last calendar day is a holiday or Saturday then preceding working day. So this month of June whichever is the last working day this contract will come to an end.

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Annexure 1

Contract Specifications of Cotton (29mm)

Symbol	COTTON
Description	COTTONMMYY
Contract Listing	Contracts are available as per the Contract Launch Calendar
Contract Start Day	1st day of contract launch month. If 1st day is a holiday then the following working day.
Last Trading Day	Last calendar day of the contract month. If last calendar day is a holiday or Saturday then preceding working day
Trading Period	Mondays through Fridays
Trading Session	Monday to Friday: 10.00 a.m. to 9.00 \ 9.30 p.m.
Trading Unit	25 bales
Quotation/Base Value	Rs. Per bale (of 170 Kg)
Maximum Order Size	1200 bales
Tick size (minimum price movement)	Rs 10
Price Quote	Ex-Warehouse Rajkot (Within 100 km radius) excluding all taxes, duties, levies, charges as applicable

More about trading period Mondays through Fridays. Trading sessions again Monday through Friday 10 AM to 9.30 PM. Trading Unit Trading Unit is 25bales, so, if I am interested to take short futures contract minimum one contract will have a minimum 25 bales as a underlying. So it is like a if I want to take futures contract for one unit that means I am willing to buy or sale cotton for 25 bales. And what is a bale? Bale has consist of 170 kilograms of cotton and quotation based value. So whenever I will be quoting, when I will be giving a buy or sell order I will not be giving for 25 bales but I will be quoting it for 1 bale.

What is the maximum order size? Maximum order size is 1200 bales. So, in a given order I will be able to if at a single point of time I can order let us so 1200 bales divided by 25, so that comes to 48, so I can order for maximum 48 contracts at a single order.

Minimum Tick size: Tick size is the minimum difference on quotation so somebody can quote in let us say 12000, 12010, 12020 so on and so forth. So a trader cannot quote anything in multiply multiplication of 5 or 2 or 1 or 3 so on and so forth. It has to be multiplied by 10 rupees, whatever may be the buy or sell value a trader is interested to quote.

And this price quote, this price quote is X ware house Rajkot within 100 kilometer radius excluding all taxes, duties levies charges as applicable. So this means that whatever price a buyer or seller is quoting that means the buyer will be as if taking delivery from Rajkot and the seller

will be giving delivery of the cotton at Rajkot. So, if the buyer or seller are interested to take or give, give or take delivery at any other location will you know in other also some discount or premium associated with it will discuss later.

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Daily Price Limits	DPL shall have two slabs - Initial and Enhanced Slab. Once the initial slab limit of 3% is reached in any contract, then after a period of 15 minutes, this limit shall be increased further by enhanced slab of 1%, only in that contract. The trading shall be permitted during the 15 minutes period within the initial slab limit. After the DPL is enhanced, trades shall be permitted throughout the day within the enhanced total DPL of 4%.
Initial Margin	Minimum 4% or based on SPAN whichever is higher
Extreme Loss Margin	1%
Additional and/ or Special Margin	An additional margin (on both buy & sell side) and/ or special margin (on either buy or sell side) at such percentage, as may be deemed fit, will be imposed by the Exchange/Regulator, as and when is necessary, in respect of all outstanding positions.
Maximum Allowable Open Position	For individual clients: 1,50,000 bales For a member collectively for all clients: 15,00,000 bales or 15% of the market wide open position whichever is higher. For Near Month Delivery For individual clients: 37,500 bales For a member collectively for all clients: 3,75,000 bales or 15% of the market-wide open position whichever is higher.
Delivery Unit	100 bales (170 quintals* or 48 candy approx.) *+/- 7%
Basic Delivery Centre	Rajkot (Gujarat)

Daily price limit like circuit breakers in stock exchanges stock markets so you also have a futures contract of daily price limits. So, this is daily price limit is mentioned here so it is mention at to be a Daily Price Limit (DPL) of 4 percent, so commodity cotton prices is cotton future prices is allowed to fluctuate within this range.

This is a very very important understanding, I must highlight at this point of time that the futures market there is no there is no price limit but this particular price limit is applicable to sorry in case the spot market there is no price limit so you know buyers and sellers can agree on any price there is because these are spot markets are not for exchange traded. So you have no price limit for spot market. Spot market price can go up or go down depending upon the demand supply situation at that point of time.

But, in case of the futures contract, futures contract have their daily price limit. Initial margin initial so when a buyer a a trader takes a long or short position short futures position, they have to deposit the initial margins so initial margin. So, Initial margin of 4 percent is mentioned so let us how exactly this initial margin 4 percent let us say this initial margin let us say a trader took to long a trader took long futures in two contracts that is 50 bales at a price of 19130 rupees per

bale. So, total amount he has to pay 4 percent of this total amount as a initial margin so that comes to around 38260 rupees.

So, and one important understanding is that both long futures and short futures party have to deposit the margin. It is not that only one party will pay and the other party will not be depositing. Both initial margin has to be deposited by both parties. There is also extreme loss margin, another type of margin there is additional and special margin, I will discuss all this little later.

And Maximum Allowable Open Position, so what is exactly for a individual client 150000 bales. So if I, if I as a as a client I am interested to take long or short futures position in the cotton futures contract, at a given point of time I can have that many long and short features contract such that such that my total, the total underlying will be equal to 15000 bales.

So, as a Individual trader let me make it bigger so on this particular note individual trader can have maximum long or short position for 125000 bales, so he can have 6000 contracts for all maturity. Let us say if today I have a, I can take long or short futures contract on June contract, July contract, October, November, December contract. So, across all these 5 contracts, both short as well as long position I can I can have maximum I can have 6000 contracts against my name.

And, also there is another limit which is set by the exchange, so for near month delivery for individual client some 37500 maximum are 37500 bales can be kept. So, out of this 6000 open position a trader can have a maximum long or short position, a long or short position for let us say 1500 contracts that is 37500 bales divided by 25 bales so you can have a maximum 1500 contracts for the near month contract that the contract which is going to mature immediately.

So, today 10 June the contract which is maturing on June 2016 is the near most or nearest contract, so that particular contract if I take long futures or short futures , so at a given point of time I cannot have more than 1500 contracts open against my name or my client code.

Delivery Unit: So, let us say I am interested to deliver I have taken, let us say I have taken short features and I am interested to deliver the underlying. So I can deliver multiples of 100 bales and so it has liable margin of plus minus 7 percent, so that means I can deliver anywhere between 93 bales to 93 bales to 107 bales in multiplication of 93 bales to 107 bales where I can deliver or

where I can take delivery a trader can take, where trader can deliver the underlying or take delivery that is the place called Rajkot in Gujarat.

A trader can also a trader can also deliver that is a long futures, sorry short features position holder can also deliver in other centers that is these are the additional delivery centers. Now we are talking about Quality aspects. In the 29 NM this particular a panel shows the detailed (())(25:23) and the underlined commodity satisfies the detail quality specification who is the underlying commodity has to satisfy for you know to be traded in this in the exchange.

Not only the underlying commodity how the baling has to be done that is also mentioned and crop condition only current session season Indian crop is deliverable so only current season Indian crop is deliverable. And if a particular trader has suppose a has already imported certain cotton from somewhere else he cannot he cannot use the exchange platform for selling or delivering that cotton. Or even older last year cotton if they have stored those older cotton that is also not available for delivery.

Delivery Period Margin that is 24 25 percent so, before the contract comes to an before the contract expiry the contract enters into a delivery period. So, during that delivery period whoever party has a long or short futures position, they have to deposit margin that is called your delivery period margin that is to the tune of 25 percent of the total underlying what they are holding at that point of time.

So, this is the Due Date Rate. This is also known as final settlement price. So on the contract delivery date sorry contract maturity date there will be no futures quotation for that contract and the spot price will be used for all settlement and all you know all payment related calculations so how exactly the spot price will be arrived on the contract delivery rate delivery date sorry how the spot price will be calculated on the contract maturity date that is mentioned here as a due date rate.

So basically this is the let me read out the due date rate shall be arrived by taking the simple average of last three trading days polled spot prices that is E0, E1, E2 of Rajkot in the in the event of spot price for any one of the E minus 1, E minus 2 that is let me repeat once again the due date rate shall be arrived by taking simple average of last three trading days polled spot

prices. So if today let us say 29 of June is going to be the contract maturity date, so 28 June, 27 June and 26 June prices will be used to arrive at the spot price.

And, how this 27 June, 26 June, 28 June will be collected the exchange will have exchange sets up a mechanism by which they poll from major cotton traders processors, consumers etc. from then it collects it does a poll from it does the averaging of it and that becomes the spot price that becomes a spot price to prevail on the contract maturity day that is on 29 June 2016. Delivery Logic is compulsory delivery I will come to this aspect little later.

So for this session will wind up understanding different aspect of the contract specification the in the next session we will discuss the delivery and settlement procedure of cotton and whatever we have not been able to discuss as part of the futures contract specification.

Thank you all of you.