Commodity Derivatives and Risk Management
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Week-02
Lecture 06
Futures Contract Specification

Welcome to Commodity Derivatives and Risk Management. This is the 6th lecture. And today we would be predominantly discussing on various aspects of futures contract specification. Now, let us summarize what we discussed previous class for a minute. If you recall we were discussing about forward contracts and forward contracts are bilaterally agreed contracts. And as you can see in this picture you have a long forward party and you have a short forward party. Long forward party is the party which wants to buy the underlying and short forward party is the party which wants to sell the underlying. And they are agreeing various terms and condition of the agreement in terms of quality, quantity, maturity date, delivery location and forward price. What are the benefits of this kind of a contract? These contracts have lot of flexibility incorporated into the contract terms. However, what is the major risk associated with forward contracts is that the forward contracts have significant amount of counter party risk.

Another aspect also we discussed previous session that in case of a forward contract, the long forward position holder has to spend considerably of time, effort and energy to mitigate the quality risk. Now, coming to the futures contract. Futures contracts are standardized. Future contracts are derivative contracts which are available for buyers and sellers in a regular commodity exchange. And when we talk about standardization, the standardization in terms of quality, quantity, maturity date, delivery location and so on and so forth. And also in the last session, we discussed that in the case of a futures contract as soon as the long futures and short futures party enter into a contract, exchange clearing house takes a intermediary position and through a process of a novation. So, last session we discussed some time we spent some time understanding more on what is novation. As this picture you can see that there is a long futures party, there is a short futures party and long futures party is the party which intends to buy the underlying and short futures party is the party which intends to sell the underlying. What is the benefit of futures contract? Benefit of futures contract is there is no counterparty risk. And what is another benefit with associated a futures contract is that they are easy to close a contract.

Today let us say somebody has entered into a long futures contract, tomorrow it want to close that contract it can do so by going to the same exchange and undertaking a short

futures contract. So, closure of a contract is far easier in case of a futures contract. However, what are the cost? The cost is that the standardized terms. Every commodity producer or a commodity consumers requirement is not same in terms of the quality and quantity. However, the moment somebody enters into a futures contract using exchange-traded contracts, they have to buy and sell standardized contracts.

There is also another concept which we will discuss in greater detail that is daily margin payment. So, buyers and sellers of futures contract have to pay daily mark to market margin and that can be quite costly. With this let us go to understand more detail about the futures contract specification. This is the futures contract specification on turmeric which I have downloaded from the NCDEX website. As you can see, this is a 6-page document with a lot of parameters.

And one thing I would like to highlight here is that the first column remains constant for all commodities. What changes is the right side of the parameter that is there will be certain details will be mentioned when the underlying is a turmeric. When the underlying changes the right side information or right side details given will be changing. And if somebody is very interested to understand the commodity contract specification with respect to a specific commodity I would advise them to go to the respective commodity exchange and download the freely available contract specification and go through the contract specification in bits and pieces in complete detail. So, in addition to this contract specification exchanges also prepare detailed product note as you can see this particular document is spanning over 24 pages. So, I will not be going into the nitty gritty of it, but a greater part of this aspect will be discussed in today's session and in the next session. Similarly, in addition to the NCDEX turmeric contract, we will also be discussing little bit on MCX crude oil futures contract specification as part of this couple of lectures. Now, let us go to the detailed contract specification which I have extracted from the NCDEX website. As you can see, this is a future contract and what is the underlying? Underlying is turmeric and the ticker symbol is the exchange symbol, the trading system is the NCDEX trading system and basis. Basis is the very important concept related to a commodity derivative and basis is the in this case farmer polished turmeric fingers of Nizamabad quality and the warehouse is located at Nijamabad and this also has a component which is called a component of exclusive of GST.

So, we will understand all this aspect in greater detail. What is the unit of trading? Unit of trading is 5 metric ton, delivery unit is 5 metric ton, the maximum order size is 250 metric tons, quotation base value is rupees per quintal. Now, let us come to what is the unit of trading. suppose somebody wants to take a long futures position or a short futures position. So, minimum trading lot is 5 metric ton. Suppose let us say a turmeric producer from Telangana wants to take a long future position. So, let us say we name him Mr A and if the moment Mr. A takes a long futures position in the NCDEX trading system somebody has to take a short futures position. So, we name him let us say him or her as a

B. So, this particular person will be taking a short futures position and if both of them have agreed for a one contract that means, it is equivalent to 5 metric ton.

So, Mr. A is agreeing to buy 5 metric tons of turmeric from Mr. B. So, that is the meaning of unit of trading. Delivery unit is also 5 metric ton, maximum order size is 250 metric ton. So, what is the meaning of this maximum order size is that when Mr A or Mr B wants to go to the NCDEX trading platform in a single order they will not be able to buy more than 50 contracts. Each contract is for 5 metric tons. So, in a single order they will be able to place only 50 contracts. Why exchanges put this restriction, we will be understanding in greater detail later point in time. Now, coming to Quotational Base Value. So, what do we mean by Quotational Base Value? Even if Mr. B is one taking a long futures for one contract when he will be going to the exchange platform for placing an order the price what he will be placing is let us for rupees per quintal. So, that is the quotation base value. Now, let us come to next you know aspect which is the quality specification, as we discussed that futures contracts have standardized parameters. So, the exchanges do a lot of effort to identify a quality which is of significance in the sense, there should be many producers and many consumers who would be interested to undertake a contract on turmeric having this quality specification. I would like to draw your attention to what is the quality specification mentioned by the exchange that is farmer polished turmeric fingers and other parameters the length the the damage type and all other parameters are given in greater detail.

Now, coming to the next aspect which is your tolerance limit for outbound deliveries. Please note that if a long futures position holder who wants to buy the underlying wishes to take delivery from the exchange, the exchange will ensure that the exchange is delivering turmeric of some specific quality. So, this is the basis quality which is for farmer polished turmeric fingers and in addition to this basis quality their exchanges also mention this tolerance limit. The tolerance limit is plus or minus 3 percent and as you know that agricultural commodity can never have an exact quality specification because of the weather parameter and various parameters. So, exchanges allow some amount of tolerance limit to the exchange quality specification.

So, this is the basis quality, this is the basis quality and tolerance limit are as set forward by the exchange. Now, I come to the other parameters. Please note that in addition to the basis quality exchanges also identify other qualities which are deliverable by farmers turmeric farmers. Please note that agricultural commodities can have various kinds of a quality types. So, here as you can see the yellow-colored highlights are other qualities and the blue highlights are your warehouses.

The basis warehouse is at Nizamabad and their basis quality basis quality is farmer-polished turmeric fingers. So, in addition to this basis centre and basis quality exchanges also identify which are the other quality turmeric which can be delivered and also which

are the other centers. So, these are if you see Sangli E road and Basmat are your additional delivery center which are very clearly mentioned. So, delivery centre main delivery centre basis center is your Nizamabad, additional delivery centres are Sangli E road and Basmat. The main basis quality is farmer-polished turmeric fingers and in addition to this basis quality, somebody can also deliver Unpolished turmeric fingers and farmer-polished fingers of Nizamabad variety, farmer-polished fingers of Rajpur variety and so on and so forth.

And please note another aspect is that. So, what is the meaning of this 50 kilometre from municipal area means if somebody is wanting to deliver turmeric in the exchange approved warehouses. So, this NCDEX has already identify certain warehouses which are located within 50 kilometer municipality area of this Sangli E road Basmat and Nizamabad. And so, sellers have to deliver the turmeric in these warehouses and buyers would like would have to take delivery from this exchange-approved warehouses. So, when we mentioned standardization, So, delivery location is the standardization or exchanges do the standardization through this process. Now coming to what are the hours of trading is an exchange like Monday to Friday 9 am to 5 pm and delivery logic is compulsory delivery. Now at this context, I would like to highlight that delivery logic can be four types. One is your compulsory delivery as mentioned here. We can have cash settled, we can have buyers choice and we can have sellers choice.

So, we will understand this different types of delivery in a greater detail for the time being let us focus on what is we mean by delivery logic of compulsory delivery. So, we will understand this different types of delivery in a greater detail for the time being let us focus on what is we mean by delivery logic of compulsory delivery. Now coming to the next aspect which is your tender period. So, tender period is the period when a short futures holder if it wishes to deliver the underlying they will be able to do so at the exchange approved warehouses. And please note that the tender period is the last five trading days of the contract and pay-in and pay-out dates.

So, pay-in date is the date on which pay in date is when the short futures will be short futures position will deliver the underlying to the clearing date. Clearing house and long futures party will pay money to clearing house. It is important to note here is that in case of a futures contract both long futures and short futures will not know each other they will not directly contact each other this has anonymous trading. Suppose today I want to take a long futures contract I go to NCDEX platform give my you know my trading the price and how many units I would like to buy. If my trade gets executed that means, if I have, I am if I am in trade I am going to buy a long futures contract and I am going to buy a short futures contract.

So, if I have a long futures contract I am going to buy a short futures contract and I am going to buy a long futures contract if I have I am if I am interested to take long futures

and my trade got executed that means, somebody somewhere in the world has taken a short futures position. Once this happens I will get a information from the exchange saying that your trade has been executed. And once this trading is done then there is no role of exchange the exchange clearing house takes over through the process of innovation and subsequently the period of the settlement and rest of the initiatives rest of the activities starts. So, pay in date is the date in which the short futures will be delivering the underlying to the clearing house or the exchanged warehouse approved associated with the clearing house. And long futures party will pay the money to the clearing house and what is the pay out date? Pay out date is the day clearing house will pay clearing house will pay the clearing house will pay clearing house will pay the underlying to deliver the underlying commodity to long futures and clearing house will pay money to pay money to long futures to date. So, the pay in date will be the 2 days after the tender period or 2 days after the expiry period before 12 o clock and pay out date will be tender date or expiry date 2 day after tender date or expiry date and after 3 p m. So, what basically pay in date says that if I am supposed to give something to the exchange if I am I have taken a long futures I am supposed to pay money to the to the exchange and receive the underlying. So, I must first complete whatever I am supposed to pay to the exchange by the pay in time and whatever I am supposed to receive from the exchange that exchange or the clearing house of the exchange will pay to me that will be known as a pay out time which is later than the pay in time. Now, let us take a you know detailed example to understand what different as you know activities we different parameters we discussed.

So, let us say today is 12th May 2023. So, today is 12th May 2023. So, somebody let us say a farmer from Telangana wants to take a short futures position and why the farmer wants to take a short futures position because the farmer wants to take a short futures position because the farmer is fearing that the price will be going down in future. So, the farmer takes let us say short futures position for August 2023 contract maturity and I am going to show you that the farmer as per the exchange NCEDEX notification 18th August let us say 18th August 2023 is the expiry date. And how many contracts this farmer is taking let us say the farmer has about let us say it is a small farmer it has about 7 metric tons of turmeric and the exchange contract is for 5 metric tons.

So, he enters into a contract. So, the farmer is entering into a contract to sell the underlying on 12th May 2023 for a contract which is maturing in August 2023 that is 18th August 2023 that is the expiry date of August 2023 contract. Now, this particular person goes to the exchange and gives a bid of that is once price bid of let us say 7482 rupees a quintal. Please remember this is a the quotation base value for this particular contract is rupees per quintal. So, he bids for 7482. Now, somebody somewhere it could be another wholesaler or it could be anybody in the world wants to take a long futures

position and that particular party also has given a bid to in the exchange NCEDEX trading system and the order matching happens.

So, once the order matching happens. So, Mr. A will take a short futures contract and Mr. B will be taking let us say long futures position and rest of the term is remains constant. So, if A has taken a short futures contract on 18th August 2023, A has taken a short futures contract on 12th May for August 2023 contract for one contract at a price of 7482 per quintal, B has taken a long futures position with rest of the rest of the contract terms remaining constant.

Now, let us say Mr. A wants to give delivery of the turmeric at Nijamabad warehouse on 18th August 2023. So, what Mr. A will do he will not do anything he waits till 18th August 2023 to arrive. Now, in the meantime if Mr. B wants to close his position which he had taken a long futures position he can do so, by taking a exactly a opposite position.

So, today 12th May Mr. B took a long futures position for whatever may be the reason let us say Mr. B would like to close his position on let us say 15th May. So, on 15th May if Mr. B wants to close his position he will be able to do so, by taking a short futures position. Earlier he had taken a long futures position to close that he will take a short futures position on the same underlying for the same maturity.

Now, when B is taking a short futures say on 15th May Mr. C is taking a long futures position. So, what do we derive from here please note that B is no more there in the system. On the first day A and B were counter party A and B were counterparties and B was counterparties on 12th May, but by 15th May A and C are counterparties because B has closed his position. So, what we are deriving that at any point in time the number of long futures position will be always be equal to number of short futures position.

So, with this let me summarize what we discussed. We discussed that futures contract are standardized contracts and exchanges put significant amount of effort in designing contract terms and condition such that the contract is able to mitigate the price risk of the you know actual commodity producer, consumer or buyer. So, with this let me summarize what we discussed. We discussed that futures contract are standardized contracts and exchanges put significant amount of effort in designing contract terms and condition such that the contract is able to mitigate the price risk of the you know actual commodity producer, consumer or value chain partners. So, as you can you know as you have noticed that the contract specification is a 6-page document with contract product specifications is a 24-page document. So, I am sure from there you will be able to understand the amount of effort on amount of detailed planning is done by commodity exchanges to arrive at different standardization specification of the underlying contract.

And exchanges through the exchange trading contract different people take short futures

the moment somebody takes a long futures somebody some the moment somebody takes a short futures somebody else has to take a long futures and vice versa. And at any given point in time the number of long futures position will always be equal to the number of short futures position. So, the remaining part of the contract specification we will be discussing this in the next session. I hope you enjoyed this particular session. Thank you all of you.