Commodity Derivatives and Risk Management
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Week-02
Lecture 07
Future Contract Specification (contd...)

Welcome to the 7th ah lecture session on Commodity Derivatives and Risk Management. And in the previous session we were discussing different aspects of futures contract specification, we will be continuing with this session in this lecture 7th lecture. Now let us recollect if you recollect that we had discussed different parameters of a futures contract specification in terms of basis, unit of trading, delivery unit, maximum order size and quotation base value. And in this context, I would like to stress upon the meaning of basis. Basis indicates the quality which is going to be delivered by the traders at the exchange approved major warehouse. Now let us go to the discussion in the previous session.

We had also discussed that at any given point in time the number of long futures contracts is going to be the number of short futures positions at any given point in time in an exchange. Now, let us come to the other aspect when we talk about futures contracts being standardized exchanges go and identify what is going to be the quality specification and as you can see, so much detailed description is given related to what is the basis quality. Here I would like to highlight that the basis quality is farmer polished turmeric finger which is to be ah delivered at Nizamabad location and other details are given. Also, in addition to this quality specification, exchanges allow a little bit of variation to this quality specification if any farmer is wishing to deliver the turmeric.

Please note that the turmeric is an Agri product. So, depending upon the weather, depending upon the various conditions, the different parameters related to turmeric quality can differ. So, exchange allows some amount of plus minus tolerance unit to the basis quality. So, the second table indicates that aspect. Now let us go to the other aspect.

Please note that, in addition to the main delivery center, which is the Nizamabad, Exchanges also identify additional delivery centers. So, these main delivery centers are the major trading centers for a particular commodity and in addition to the major delivery center, there are smaller centers where considerable amount of trading activity happens. So, exchanges also add these centers as additional delivery centers. In addition to the basis quality, exchanges also allow other varieties of turmeric for that matter. If you see

exchange also allows unpolished turmeric fingers at Nizamabad farmer polished fingers of Nizamabad variety at additional delivery center Sangli.

Similarly, farmer polished fingers of Rajpore variety at Sangli. So, this information is given by the exchange before the start of the contract. And hours of trading, when anybody would be able to enter into futures or long futures or short futures contract through a exchange trading platform that is the time of the hours of the day trading and delivery logic is compulsory delivery. Now in addition to compulsory delivery there could be other delivery logic which are four other different types of delivery logic we will be discussing this aspect in greater detail in the next one or two slides. Now tender period is the period when the short futures position holder who would like to deliver the underlying and turmeric in this case, they can give their interest to the exchange and that trading period that tender period is 5 days before the expiry period.

And pay in pay out date is always with respect to the exchange. So, let me take you to the next slide. So, in the pay in date is the date when the short futures holder and long futures holder will be delivering the underlying and paying money to the exchange clearing house that is the pay in date and time payout is from the exchange clearing house to the long futures and short futures holder. As you can see pay on the date and time when the short futures holder will deliver the warehouse receipt of approved variety and quality specified. I would like to again stress upon here that a farmer will not be able to deliver any other quality and variety which is not mentioned in the contract document.

So, if a farmer wishes to deliver, he or she must have a variety and must be having a quality as specified by the contract specification. So, short futures holders will deliver the warehouse receipt to the clearing house by pay in date and time. Similarly, long futures holder will pay money to the clearing bank of the exchange by the pay in date. So, the clearing house will transfer the warehouse receipt and good delivery note and quality assessment certificate to the long futures holders. And similarly, the clearing bank associated with the clearing house will transfer cash to the short futures position holder by the payout date and time.

And as you can see the due date or expiry date every contract month has a standard expiry date, in this case, it is the 20th of the month as mentioned in this contract specification. Please note that this date can vary from commodity to commodity. If somebody is interested to actually trade a particular commodity futures contract I would advise them to read the contract specification in detail. And if you can see the delivery specification can be five types which is a compulsory delivery, sellers' choice, buyers choice, both choice or it could be cash settled. Now, let us take a numerical example to understand more on this aspect.

Let us say during May 2023 a turmeric farmer let us name him as Mr. T is fearing that by August 2023 which is the harvest time the turmeric price will go down. So, the farmer is fearing up is having a price risk and farmer is going to farmer is interested to hedge the price risk in the at NC DEX. And the farmer also knows the quality of turmeric produce it would produce would be of acceptable grade and variety as per the NCDEX specification which is the basis quality.

Now, Mr. T would also like to deliver the turmeric in NCDEX approved warehouse which is the basis location. Now let us say on 12th May the spot date around 10 AM Mr. T wishing to take a short futures position because it wants to deliver or sell the underlying it takes one contract at NCDEX and gives a quotation of 7482 rupees per quintal at NCDEX platform trading terminal. There has to be somebody counterparty who would be interested in taking a long futures position on one contract of turmeric at a price of 7482. Now, if this happens let us say Mr.B is interested to take the counter party position or a long futures position in this case. So, once the trading happens the order matching happens now B and Mr. T are counter party with the NCDEX counterparty with the NCDEX clearing house imposing between them. Now let us say on 15th May 2023, 3 days after entering into the contract Mr. B would like to square up his contract. So, initially he had taken the long futures contract now to square up or close the contract he has to take a short futures contract, or he takes a short futures contract and who is the counter party now let us say new member which is let us name him as Mr. X. So, now Mr. X has a long futures position and who is the counter party to Mr. X Mr. T, the turmeric farmer, is the counterparty to A. So, now, Mr. T and Mr. X are counter parties, and this process goes on till the contract expiry which is the 20th of August 2023. And hence at any point in time as I have already mentioned the long futures position will be equal to the short futures position or the number of long futures contract will be equal to the number of short futures contract. Now let us move to 20th August 2023 which is the expiry date. Let us say at the exchange platform there are 715 contracts that means, there are 715 long futures position and 715 short futures position and please note that the turmeric is a compulsory delivery contract. So, because it is a compulsory delivery contract all short futures position have to deliver the turmeric at the exchange approved warehouses and all long futures position holder will be taking delivery of the turmeric and pay the basis price.

We will come back to what do we mean by basis price at a later point in time, but this particular table shows the process of pay in process and pay out process and as you know the exchange mentions that the trading will be done by expiry plus 2 days. So, the detail this particular table shows that by 20th August 12 noon both short futures will be delivering the warehouse receipt to the clearing house and long futures position will be transferring the cash to the clearing house and exactly the reverse will happen at the payout process. And here I would like to draw your attention that irrespective of what

happens to the turmeric price during 12th May 2023 the day Mr. T entered into short futures contract till 20th August 2023 price may go up go down whatever it may happen Mr. T would get INR 7482 rupees per quintile. So, that means, there is no price risk the farmer Mr. T was fearing that price will go down it enters into futures contract and if it delivers the Mr. T delivers the turmeric to the exchange-approved warehouses on 22nd August 2023 and Mr. T would be getting 7482 rupees per quintal and he is not exposed to any price risk or he has hedged his price risk. Now, how this will happen we will take the numerical example and we will discuss later. Now, let us come to the other aspects, that is the delivery options or choices as I had mentioned that in addition to the compulsory delivery option could be buyers' choice, it could be seller choice, it could be both choice or it could be cash settled. Now what do we mean by each of these choices let us understand in detail. So, this detail is clearly explained in the table, let us say on the contract expiry date there are 700 contracts open contracts. That means 700 long futures and 715 long futures and 715 short futures contracts available. Let us say the contract specification mentions buyers' choice as the delivery option.

If it is buyer choice exchange will only ask the long futures position holder who would like to take delivery. It will not ask the short futures position whether you would like to give delivery or not. Similarly, in the case of a seller's choice exchange will only ask the short futures position holder to tell the exchange whether they would like to deliver the underlying contract or not. In the case of both choices, it will ask both the short futures and the long futures position. And in case of a cash settled there will be no physical delivery will happen, but how the price will arrive at and how the calculation and other details we will be discussing subsequently. Now let us go to buyers' choice. Suppose the contract specification is buyers' choice and exchange ask 750,715 long futures position holder that how many of you would like to take delivery. Let us say in the first situation you have 400 long futures position holders having 400 contract they show interest to take delivery. So, even though the open futures position is for 715 contracts only 400 would like to take delivery. So, what the exchange will do, it will randomly ask 400 short futures positions to deliver the underlying because the sellers do not have the choice it is the buyers who have the choice.

Similarly, in the second case out of 715 if only 10 long futures contract would like to take delivery exchange will ask short futures holder randomly it will ask 10 short futures holders to give delivery. Similarly in the case of a seller's choice exchange will ask the short futures position holder who would like to deliver. So, in the first case if only 130 contract holder would like to deliver it will randomly allocate this 130 turmeric contract to long futures holder and the long futures holder whoever has been allocated he or she has to mandatorily take delivery. And if the choice is both choices, so minimum of the buyer choice and seller choice will be selected. So, again exchange will be randomly allocating these 130 units to both long-futures holder and short futures holder.

And as I mentioned the cash settle part of it no actual delivery will happen, but there will be different kind of a financial transaction that we will discuss later. Now also another very interesting aspect which exchanges you know mention in the contract specification is the location premium and discount. Please recall in case of turmeric, the basis is farmer-polished turmeric finger of Nizamabad quality at Nizamabad which is exclusive of the price is exclusive of the GST. Now as I had already mentioned exchanges identify the basis center to be the major trading center, but how do exchanges go about identifying the basis quality. And let us look at this picture of three pictures of cashew nut.

The first picture indicates a very good variety of cashew nut. The middle picture shows a average kind of cashew nut which is mostly consumed and mostly produced. And the third one is the broken cashew nuts which are of poor quality, not demanded by many people and not consumed also by many people. Now when exchange identifies the quality to be associated with contract specification exchanges normally identify which is the average quality and they call it as a fair average quality or FAQ. So how does the exchange go about identifying the fair average quality? If you recall every contract specification has a product detailed product note and please note that exchanges have a product advisory committee for every commodity comprising of major commodity producer, trader, wholesaler, consumers and so on so forth.

And these are the people who advise the exchange officials to set the different quality parameter or standard quality parameter associated with the specific underlying commodity. Now in addition to the fair average quality or basis quality as well as basis center exchanges also identify other qualities, other varieties, other quality as well as additional delivery centers and additional delivery centers are also trading centers for a given commodity where significant amount of trading activity happens. When we are talking about trading activity means actual physical trading activity, a buyer, seller coming to a local market buying, negotiating prices and all or we can see these are major spot markets for that particular underlying. And whenever a trader who is delivering a contract which is delivering a underlying which is different than the exchange approved basis quality permitted quality, but different than the basis quality as well as if a trader is delivering at a location which is other than the main location then, they have to either pay a premium or a discount. So, this particular slide indicates the premium discount part which is already mentioned by the exchange even before the start of the contract.

So, the day a contract starts on the first day of the contract exchange has to inform to all traders at large, what is going to be the premium or discount associated with delivering a approved quality at a approved warehouse, but which is different than the basis quality and basis warehouse. So, as you can see this premium discount varies from minus 4 percent to plus 4 percent. Now coming back to the other features of the contract

specification, you have due date rate which sorry due date, which is nothing, but your expiry date as you can see expiry date of this particular contract is the 20th of the month. And please note that this expiry date varies from contract to contract and if you are interested in trading in any futures contract any underlying you have to see the actual expiry date. Delivery specifications as we have in detail discussed about 5 delivery specifications that is your seller's choice, buyers' choice, both choice, cash settlement and compulsory delivery. Now in addition to these parameter exchanges also have a daily price limit that is they set a upper and lower limit for the futures price. Please note that different traders are trading futures contract on a given day. So, this daily price limit sets the maximum price and the minimum price for a particular commodity contract it can happen on a given day. And in this case, it is the plus-minus 4 per cent. So, here I would also like to highlight, please note that, in case of a spot market price can a spot market for any underlying price can go up or go down any extent, but in case of a futures contract futures contract for every futures contract for every futures contract there is a upper limit and lower limit set by the exchange. And another very important parameter associated with the contract specification is a position limit. A position limit indicates at any given point in time what is the maximum number of futures contract, either long futures contract or a short futures contract, a particular client or a trader can have as well as a trading member can have. If you can see for near month contract one client can have maximum 1400 metric tons and if you remember you have each contract is for 5 metric tons. So, it is that indicates that at best somebody can have 280 contract position for the near-month contract. Similarly, for exchanges also mention the member wise member wise maximum open position they can have and not only for the near month contract for all contracts all together exchanges mention these limits.

Why these limits are set and how exchanges identify the limits we will be discussing later, but this is a very important parameter associated with the contract specification. And please recall in the initial session we had discussed that exchange futures contract do not have any counterparty risk. So, to mitigate the counterparty risk, exchanges ask for various kinds of margin. The one such margin is the minimum initial margin, what is this margin, how exchanges arrive at this margin, what is the relevance of this margin we will be discussing subsequently. A special margin is also another kind of margin which is set forward by the exchanges.

So, with this let me summarize what we discussed. In today's session we discussed different kinds of delivery options, we also discussed what do we mean by basis center and basis quality. And what do we mean by premium discount associated with the with you know delivering any other quality or delivering a different quality at a at a at different locations. We also discussed different kinds of delivery options such as buyer's options, sellers' options, both option and compulsory settlement. We also understood the concept related to pay in date and pay out date.

With this I will like to end this session and I look forward to interacting with all of you in the next session and we will continue with the remaining part of the futures contract specification in the next session. Thank you all of you.