Management of Fixed Income Securities
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Module No # 06
Lecture No # 28
Issuance and Trading Mechanism of Government Securities

Welcome back.

So, in the previous class we discussed about the different long-term securities which are traded in the government securities market. And today we will be discussing about the issuance and trading mechanism of the government securities. How the government securities are issued and how the trading of government securities, are taking place in the market. Or what is the trading mechanism of the government is equal to in the market that basically will be discussing today.

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So, the major concepts what will be covering in today's session that is basically your yield-based auction, price-based auction, competitive bidding, noncompetitive bidding, as well as some other concepts also we will be discussing mostly this particular session will deal with the how the particular government securities are issued and how they are traded in the secondary market. What are the different ways the trading takes place and how the in the primary market the securities are issued by the issuer.

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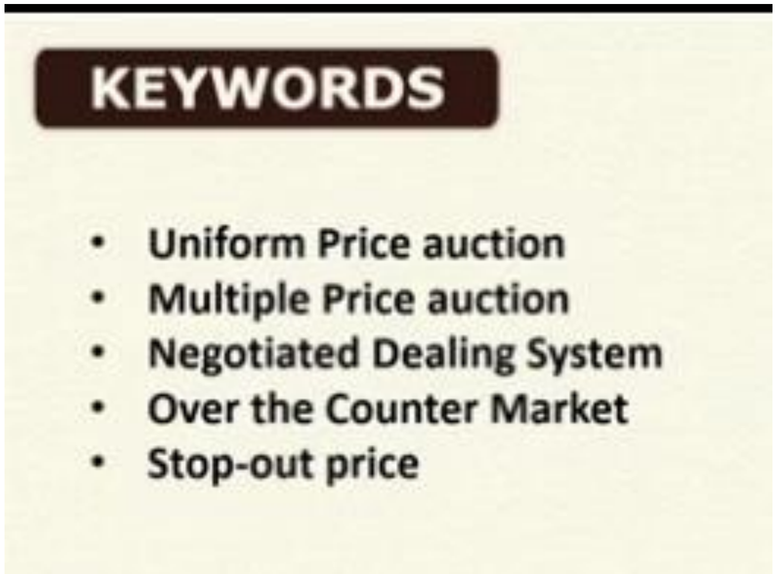

You see that there is different type of keywords again you will find that uniform price auction, multiple price auction, negotiable dealing system, or negotiated dealing system, over the counter market, stop out price so these are the different keywords that you will come across while discussing these particular sessions. In this particular session these are the words we will come across throughout the discussion whatever we are going to do today.

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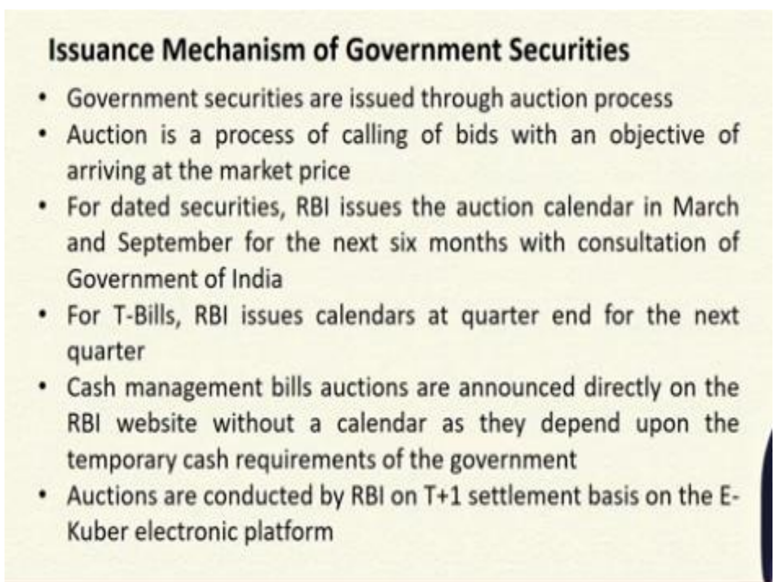

You see that already you know that like other markets, this market also has two segments one is your primary segment another one is the secondary segment. Or there is a primary market for this or there is a secondary market for this like other markets. Any market in the financial system whenever we see we have a primary market of that particular security and we have a secondary market also for that security.

What do you mean by the primary market because, the primary market is basically nothing but one of first time the securities are coming to the market there is a process they have to follow and the securities should be listed in the different exchanges. Then finally and the buying and selling mechanism will take place by the traders which are rebelled in the market. And accordingly, the demand and supply forces of that particular security will decide the price, and because of this in the secondary market the price fluctuation will take place, that already you have the idea.

So, whenever you talk about the government securities, if you look at the issuance mechanism of the government securities, these are basically issued through the auction process. In the previous session also, we have used this concept of auction the, these are issued through the auction process. And what is auction? Auction is basically, a process of calling the bids with an objective of arriving at a market price.

So, whenever we go for auction, we try to invite the bids and people will go for the bidding that means they are going to demand for that particular security, and on the basis of the bids the equilibrium price of that particular security can be determined. So, this is basically a process which invites the bids, and the objective is to finally arrive at an equilibrium market price.

For the dated securities, or the long-term securities the Reserve Bank of India basically issues the auction calendar in March and September for the next 6 months, with the consultation of the Government of India. Every 6 months basis the calendar will be prepared, tentative calendar you can keep in the mind; the tentative calendar will be prepared with the consultation of the Government of India and accordingly the other investor will be ready for that.

For T-bills which are the short-term government security the RBI issues the calendar at quarter end for the next quarter. One the quarter will be ended for the next quarter, what is the auction calendar that basically they will disclose to the market by that the investors can invest in that type of security. The cash management bills auctions are announced directly on the RBI website without a calendar, why because the cash management builds auctions are not held regularly because they depend upon the temporary cash requirements of the government.

If there is a requirement of the government then this kind of bills will be issued or this kind of cash management bills will be issued. There is no requirement there is no such kind of issuance will take place, but the treasury bills and the government dated securities these are the regular affairs; so, there is an auction calendar for this and on the basis of that auction calendar generally they will try to issue those particular securities in the market.

So, the auctions are conducted by RBI on the t+ 1 settlement basis that means if the today auction is over, then your credit and other settlements will be done by tomorrow; there is a t + 1 settlement basis on the there is an electronic platform, they have that is called the E-Kuber electronic platform. So, the auctions are conducted by RBI on the t + 1 settlement basis on the e-kuber electronic platform whatever they are using for the online transactions. So that is the way basically the issuance mechanism of the government securities is started in the primary market.

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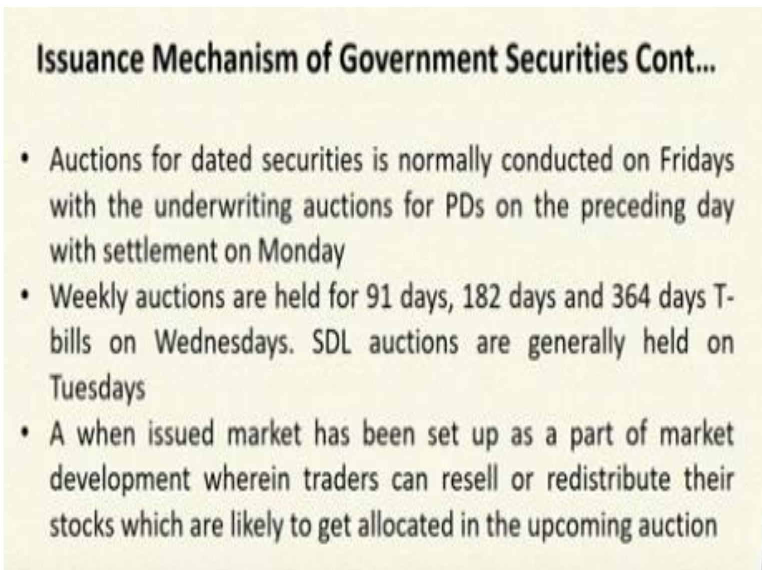

So then if you see the auctions for the dated securities are normally conducted on Fridays, with the underwriting options for the primary dealers on the preceding day; and with the settlement on Monday because Saturday, Sunday is a holiday. Weekly auctions are held for 91 days, 182 days and 364 days T-bills on Wednesdays that already I told you. And the state development loans auctions are generally held on the Tuesdays, so different kind of security there are different dates what the central bank has fixed.

And accordingly, the auctions are basically held in that particular calendar. Recently also, not recently some years back the Reserve Bank of India has started another segment in that particular government securities part that is called the when issued market. If I correctly recall that, is I think in 2005/ 06 this concept of when issued market has come.

So, the when issued market generally why it is set up, it is a part of the market development where the traders can resell or redistribute their stocks which are likely to get allocated in the upcoming auction. It is basically, done for better pricing, in this particular segment. So, the when issued market also has to some extent helped for the development of the government securities markets.

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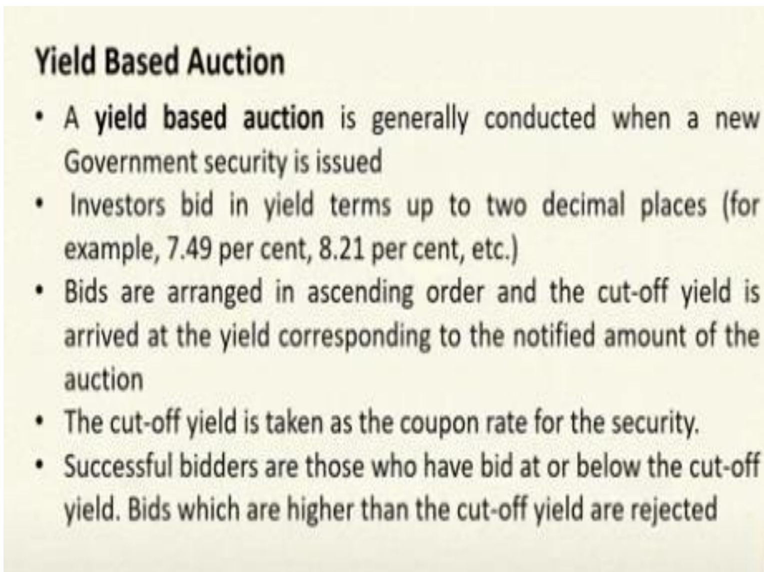

Here what we have discussed we have discussed that the auctions basically are carried out and auctions are held to issue this government securities, whether it is short term or it is long term. So, in true sense there are 2 types of auctions one is yield-based auction other one is the price-based auction. The yield-based auction is generally conducted when a new government security issued. So, the investor will go for bidding up to the 2 decimal points like 7.49%, 8.21% etc.; how much yield they expect from this particular kind of security.

Then what this RBI or the issuer basically done, they arrange these bids in the ascending order and accordingly the cutoff yield is arrived; and what is the cutoff yield? It is the yield corresponding to the notified amount of that particular auction; and this cutoff yield is considered as a coupon for that particular security; it is considered as a coupon rate for that particular security. Who are those successful bidders, successful bidders are those who basically have gone for bidding at or below this cutoff yield.

Because the bids are arranged in the ascending order whoever has asked for the lower yield or the yields which were decided which is corresponding to the notified amount, there will be the successful bidders; and the bidders which are higher than the cutoff yield are rejected.

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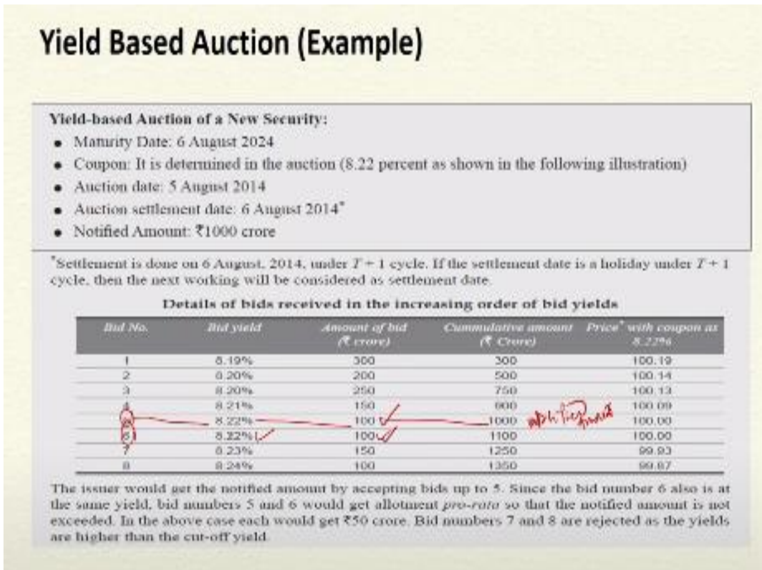

Yield Based Auction (Example)

Yield-based Auction of a New Security:

- Maturity Date: 6 August 2024
- Coupon: It is determined in the auction (8.22 percent as shown in the following illustration)
- Auction date: 5 August 2014
- Auction settlement date: 6 August 2014*
- Notified Amount: ₹1000 crore

*Settlement is done on 6 August, 2014, under $T+1$ cycle. If the settlement date is a holiday under $T+1$ cycle, then the next working will be considered as settlement date.

Details of bids received in the increasing order of bid yields

Bid No.	Bid yield	Amount of bid (₹ crore)	Cummulative amount (₹ Crore)	Price* with coupon as 8.22%
1	8.19%	300	300	100.19
2	8.20%	200	500	100.14
3	8.20%	250	750	100.13
4	8.21%	150	900	100.09
5	8.22%	100	1000	100.00
6	8.22%	100	1100	100.00
7	8.23%	150	1250	99.93
8	8.24%	100	1350	99.87

The issuer would get the notified amount by accepting bids up to 5. Since the bid number 6 also is at the same yield, bid numbers 5 and 6 would get allotment *pro-rata* so that the notified amount is not exceeded. In the above case each would get ₹50 crore. Bid numbers 7 and 8 are rejected as the yields are higher than the cut-off yield.

Let us take one example how basically it works. Let there is a government dated security right; the government dated security the maturity date let us mentioned here sixth august 2024. The coupon is it is determined on the basis of the cutoff yield auction date is late fifth august 2014, 10 years bond, the term to maturity is 10 years. Now auction settlement date is sixth august 2014 provided it should not be a holiday, notified amount is let 1,000 crores clear.

Then what has happened whenever this particular advertisement or this particular notification has come then the investors like commercial banks, primary dealers and other people will go for bidding. Somebody will go for bidding at let 8.5%, somebody will go for 8.25%, somebody, will go for 8.2% like that, so here the bids are already arranged in the ascending order. Let we have received 8 bids and the bids are varying the yield is varying between 8.19% to the 8.24%.

Let the bank who was gone for bidding at a rate of 8.19% and they are asking that bank is asking for 300 crores right, another bank who has quoted the yield 8.2 % he is asking 200 crores, third bank is also asking for the 8.2% yield again asking for 250 crores like that. Then the 8.21% they are asking 150 crores then 8.22% they are asking 100 crores then 8.3% that is 150 crores then 8.4% that is 100 crores.

So, if you see the fourth column it gives you the cumulative amount that is 300, 500, 300 + 200, 500, 500 + 250, 750, 750 +150, 900, 900 + 100, 1000 and then 1100, 1250, and 1350, because government has notified for the 1000 crore. So now the demand is if you look at the cumulative amount of bidding that is 300, 500, 700, 900, 1000 then 1100, 1250, 1350 but notified amount is 1000 so government can go up to 1000 crore.

So, when the 1000 crore is over up to the fifth bidder that is 8.22% that 8.22 % that 1000 crores is adjusted, so that is why the cutoff yield has been decided as 8.22%. But now if you see that the sixth bidder is also asking the fifth bidder is 8.22% asking 100 crores there it is 1000 crores is exhausted, this is the notified amount now this is exhausted.

Sixth bidder the cutoff the yield is same with the fifth bidder, and they are also asking 100 crores, but now the amount is not available. So, in that case what will happen; in that case if you see below since the bid number 6 also is at the same yield, then both the bid numbers 5 and 6 would get the allotment on the pro-rata basis, so that the notified amount is not exceeded. So now the fifth one is getting 100 or asking for 100, getting 100; sixth one is also asking for 100.

So now what this RBI will do RBI will allow 50 crores to fifth bank and 50 crores to the sixth bank, because they are asking same. Let 100 crores is remaining let this fifth bank is asking 200 crores and the sixth bank is asking 100 crores, so now accordingly they will divide the total 100 crores will be allotted, now the two third will go to the fifth bank, and one third will go to the sixth bank.

So, like that the allocation will be made and the bid numbers 7 and 8 at rejected because the cutoff yield is 8.22% so this pro-rata allocation will be done, whenever the cutoff yield is same, or the bidding whatever they have done that at the same rate, so now the 8.23%, 8.24% are rejected.

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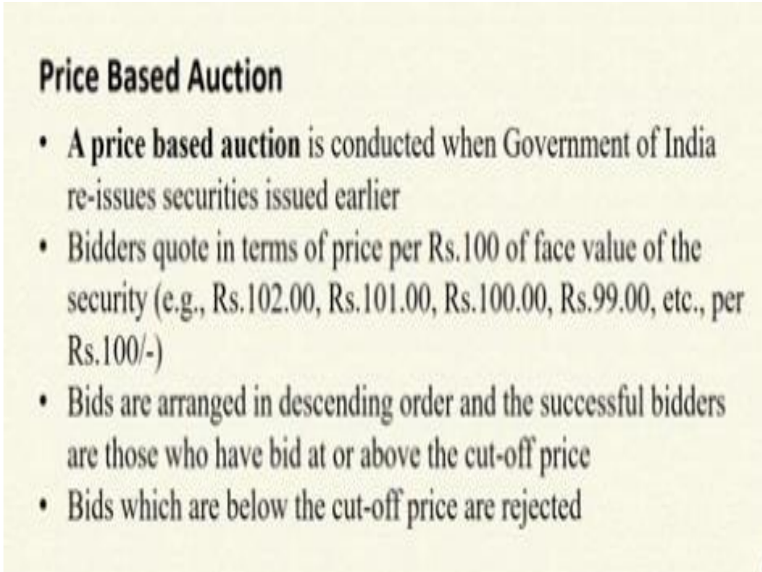

Then the other type of auction is the price-based auction, so what is the price-based auction that auction generally is conducted when the government of India reissues the securities which are issued earlier right. So here the bidders basically will code the terms of the price for 100 of the face value, and they will code the price they will bid in terms of the price like 100 to 101, 100 - 99 like that.

But in the case of yield we are arranging in the ascending order but in case of price we will arrange it in the descending order. And the successful bidders are those who have a bid at or above the cutoff price and bids which are below the cutoff price are rejected, in the same way. You can see this example.

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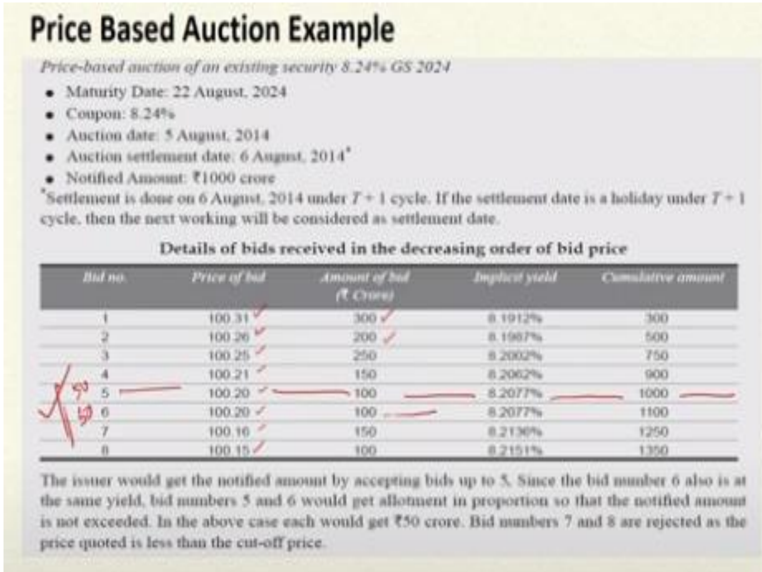
Price Based Auction Example

Price-based auction of an existing security 8.24% GS 2024

- Maturity Date: 22 August, 2024
- Coupon: 8.24%
- Auction date: 5 August, 2014
- Auction settlement date: 6 August, 2014*
- Notified Amount: ₹1000 crore

*Settlement is done on 6 August, 2014 under $T+1$ cycle. If the settlement date is a holiday under $T+1$ cycle, then the next working will be considered as settlement date.

Details of bids received in the decreasing order of bid price

Bid no.	Price of bid	Amount of bid (₹ Crore)	Implicit yield	Cumulative amount
1	100.31	300	8.1912%	300
2	100.26	200	8.1987%	500
3	100.25	250	8.2002%	750
4	100.21	150	8.2062%	900
50 5	100.20	100	8.2077%	1000
50 6	100.20	100	8.2077%	1100
7	100.16	150	8.2136%	1250
8	100.15	100	8.2151%	1350

The issuer would get the notified amount by accepting bids up to 5. Since the bid number 6 also is at the same yield, bid numbers 5 and 6 would get allotment in proportion so that the notified amount is not exceeded. In the above case each would get ₹50 crore. Bid numbers 7 and 8 are rejected as the price quoted is less than the cut-off price.

Let the maturity date is 22 august 2014 the same example we have taken here auction date is 5th august, notified amount is 1000 crores then the banks or the other primary dealers have gone for the bidding. Let one whenever, already it is arranged in the descending order 100.31, .26, .25, .21, .20, .20, .16, .15 and these are the amount of the bidding whatever they have asked for. So here itself if you see that 1000 crore is get exhausted here, up to the fifth bidder.

The sixth bidder also has quoted the same price they are also asking 100 crores like the previous case we have to give 50 crores to fifth bidder, and 50 crores to the sixth bidder. That is on the basis of the pro-rata basis we have to allot, is it clear. So that is the way whenever the price is more your yield will be less the implicit yield will be less. So, the price held relationship already you know accordingly the yield and yield can be calculated from the price or the price can be calculated from the yield and yield can be calculated from the price. So, depending upon the quotes whatever the Reserve Bank of India asks for we can decide either of these two variables.

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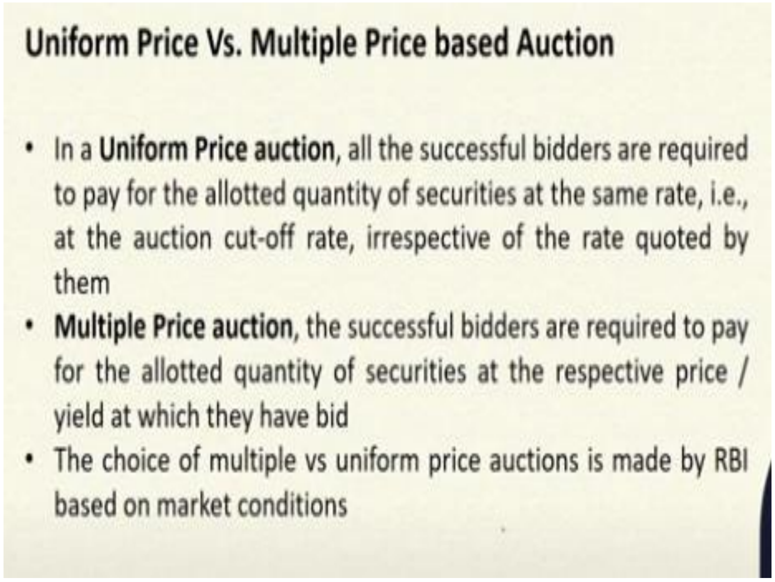

Uniform Price Vs. Multiple Price based Auction

- In a **Uniform Price auction**, all the successful bidders are required to pay for the allotted quantity of securities at the same rate, i.e., at the auction cut-off rate, irrespective of the rate quoted by them
- **Multiple Price auction**, the successful bidders are required to pay for the allotted quantity of securities at the respective price / yield at which they have bid
- The choice of multiple vs uniform price auctions is made by RBI based on market conditions

But here one thing you have observed that for everybody we can give a yield of 8.22% or a price of 100.20 so that's why the auction can be uniform price-based auction or it can be also multiple price-based auction. What does it mean that means whenever the cutoff yield or cutoff price is calculated everybody will be allotted the fund on the basis of that yield or that price. Otherwise, whatever quotes you have made on that basis your yield and price will be imposed on them.

So, like in case of uniform price-based auction all successful bidders are required to pay for the allotted quantity of securities at the same rate; that is the cutoff rate what we have decided that is 8.22%. Irrespective of the rate quoted by them somebody has quoted 8.19, somebody has quoted 8.20, somebody has quoted 8.21, but everybody will get 8.22%. But if it is a multiple price-based auction then what will happen, the successful bidders are required to pay for the allotted quantity of securities at the respective price or the yield at which they have bid.

If somebody has quoted 8.22, you will be paying 8.22, he will be paid 8.22 somebody is quoting 8.19 then he will be paid 8.19 like that. The choice of multiple versus the uniform price-based auction is generally made by RBI and that will basically be decided on the basis of the market conditions.

They will try to examine the market conditions or expected conditions in the market and they will decide that whether in the auction; they will go for a multiple price auction or they will go for uniform price auction. So that is another concept with respect to the auction mechanism that actually you have to keep in the mind.

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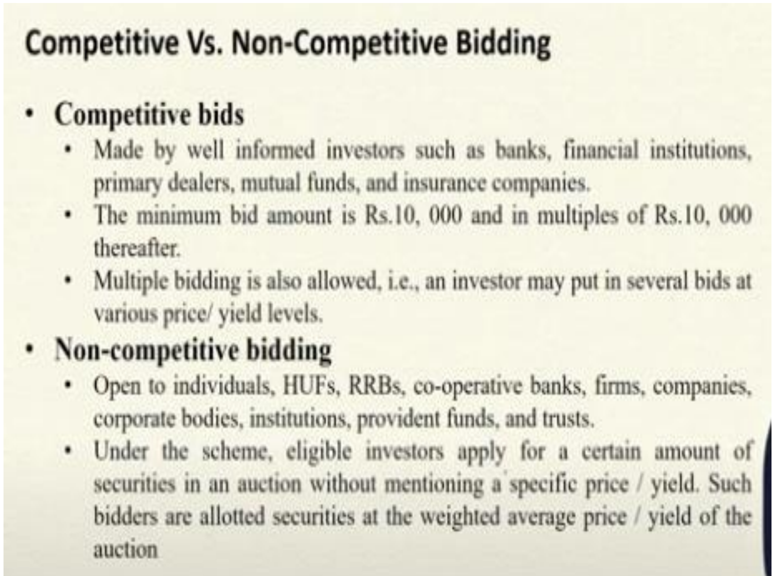

The auctions whatever we have discussed that auction process is a competitive bidding process right, but we have also a non-competitive bidding. So here everybody is bidding somebody is winning somebody is losing, somebody is successful somebody is not successful. But what happens from the monetary authority perspective all the investors are not very much informative.

So, because of that what basically they have planned they have started a concept of the non-competitive biddings. So, in case of competitive biddings who are basically should go for competitive bidding, this is basically made by the highly informed investors or sophisticated investors like banks, financial institutions, primary dealers, insurance companies, mutual funds and so on. And the minimum bid amount is 10,000 and the multiple of 10,000.

Thereafter multiple bidding also is allowed in the case of competitive bidding, the multiple biddings is also allowed the investor may put in several bids at various prices or the yield levels. One bidder can also quote for the multiple prices whichever is the cutoff yield on that basis that will be decided.

But for whom the non-competitive bidding is basically designed, the non-competitive bidding generally is open to the individuals, HUF means Hindu Undivided Families, the regional rural banks, cooperative banks, companies, corporate provident funds or the trust. So, for them some percentages of the funds are allotted, so that is basically down through complete non-competitive bidding process.

So, under this scheme the eligible investors basically apply for a certain amount of securities in an auction without mentioning a specific price or yield, so they will not quote any price. So, such bidders are the non-competitive bidders are allotted the securities at the weighted average price yield of the auction. So whatever cutoff yield or whatever average yield will observe in the competitive bidding process that price basically will be applicable for them.

So, for them they will not participate that they will not quote any particular price or the yield whenever they will ask for these particular securities, so that is called the non-competitive building, so this is the auction mechanism.

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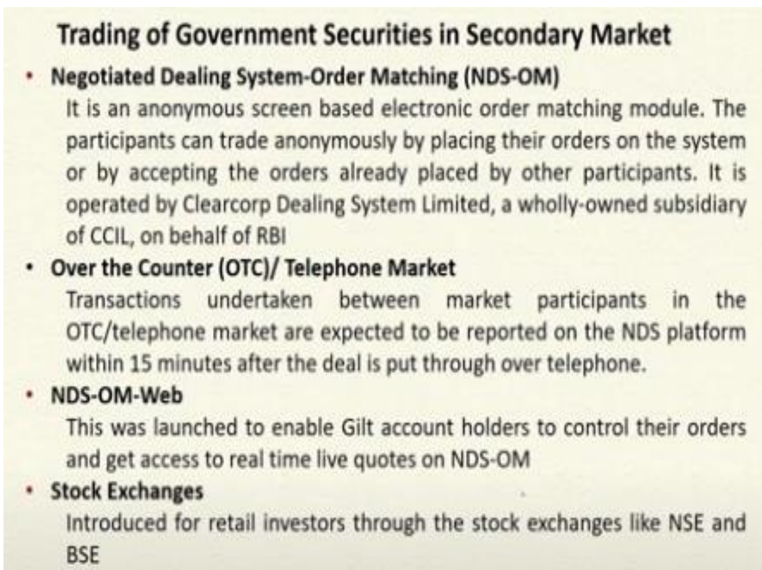

So, whenever it is a part of the primary market then whenever it comes to the secondary market, the secondary market trading basically takes place through a system called the negotiated dealing system order matching NDS-OM platform. So, this is basically an anonymous screen based electronic order matching module, the participants can trade anonymously by placing their orders on the system or by accepting the orders already placed by the other participants.

And this is operated by the Clear Corp Dealing System Limited which is a full owned subsidiary of CCIL that Clear Corporation of India Limited which is established by RBI. So that particular organization facilitates this negotiated dealing system order matching platform through which the secondary market transactions take place. It can be also done through over the counter market transactions basically undertaken between the market participants in the OTC or the telephone markets.

And whatever transactions are done they have to be reported in the NDS platform negotiated link system platform within 15 minutes after the deal is put through over the telephone. Recently they have started a concert called NDS-OM-WEB in that platform this was launched to enable the guilt account holders to control their orders and get access to real time live quotes which are available on NDS-OM.

And also, we have proper stock exchanges through which the secondary market transactions takes place. And these are introduced for the retail investors and they can participate in the secondary government securities market through these stock exchanges like NSE and BSE. They have a proper marketing platform through which the transactions can be carried out.

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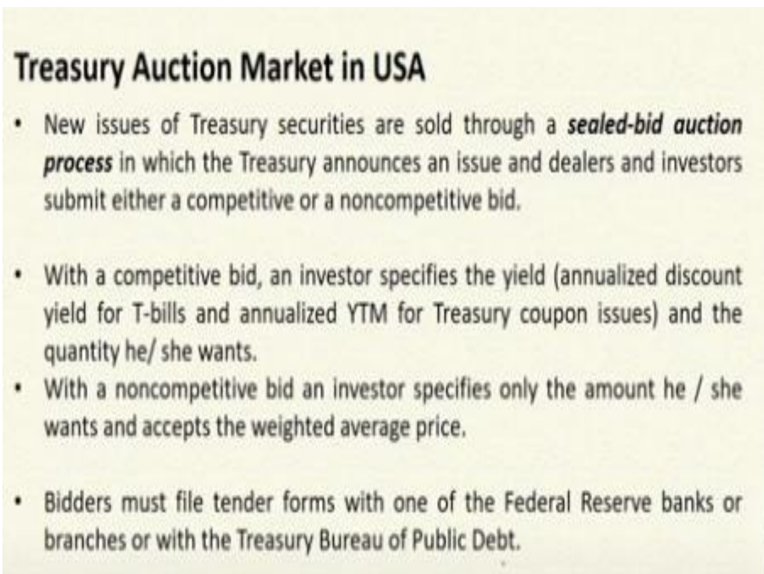

If you look at U.S more or less the process is same these are sold through sealed-bid auction process, in which the treasury announces an issue and dealers and investors submit either a competitive or a non-competitive bid. When with a competitive bid investor specifies the yield like annualized discounted yield for T -bills and annualized YTM for the treasury coupon issues, and the quantity he or she wants.

With a non-competitive bid the investor specifies only the amount he or she wants and accept the weighted average value is same. Whatever thing we follow the same thing is followed in U.S. The bidders must file the tender forms with one of the Federal Reserve banks or the branches or with the treasury bureau of the public debt that is their regulatory norm.

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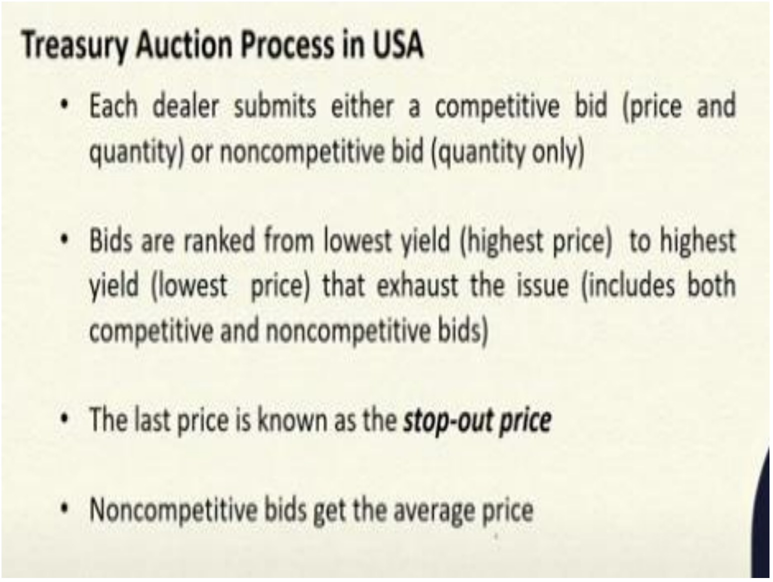

Each dealer submits either a competitive bid or non-competitive bids; bids are ranked from lowest yield to the highest yield; or the highest price to the lowest price like India, that exhaust the issue which includes both competitive and non-competitive bids. The last price is known as this stop out price, what we call it here the cutoff yield, that here we call it the stop-out price. And non-competitive bids basically get the average price. This is basically the treasury auction process which prevails in the U.S market in the primary segment.

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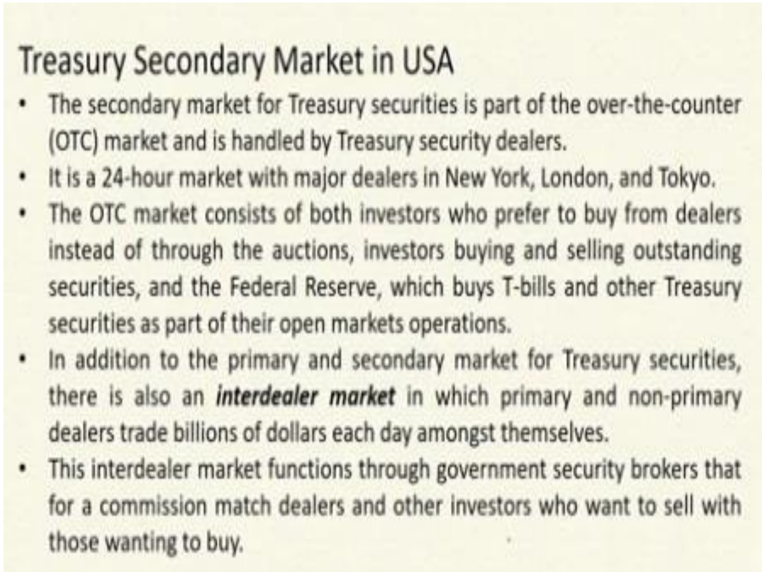

In the secondary market mostly the treasury securities are part of the over-the-counter market, then handled by the treasury security dealers. There is a 24 hours market and the major dealers are in New York, London and Tokyo. The OTC market generally consists of both investors who prefer to buy from dealers, instead of through the auctions, investors buying and selling under outstanding securities, and the federal reserve which buy the T - bills and other treasury securities as a part of the open market operations. So, all are the participants of the OTC market.

In addition to the primary and secondary market for the treasury securities there is also an interdealer market in U.S., in which the primary and non-primary dealers trade billions of dollars each day among themselves. The interdealer market functions through the government security brokers that for a commission match dealers and other investors who wants to sell with those who are interested to buy.

So that is a, they have a different segment they have that is called the inter-dealer market within the dealers the transactions basically take place among the transactions take place. So, this is the secondary market operation with respect to the U.S. market, this is the way these treasury securities or government securities are traded in the secondary market in U.S.

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So, what we have discussed all government securities are traded both in primary and secondary markets. So, in the primary market all these are issued through the auction process, the auction can be yield-based auction or a price-based auction. And it can be also the multiple prices or the uniform price-based auctions, and also the bidding can be competitive and the non-competitive.

And the secondary markets all the trades are all are traded so the over-the-counter market and the stock exchanges, and the secondary market transactions in U.S. are handled by the treasury security dealers. And there are many investors or many participants are involved in this particular market from the different perspective both from the buying and the selling perspectives. So, this is about the trading mechanism or the issuance mechanism of the government securities in India and as well as USA.

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So, these are the references you can go through for today's session.

Thank you.