Management of Fixed Income Securities
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Module No # 07
Lecture No # 34
Debt Securities of Commercial Banks

Welcome back. So, in the previous class we discussed about the different types of securities which are issued by the corporates and as well as the governments. Then we discussed about certain securities which are issued by the municipalities or the local bodies, local government bodies. And all those instruments which are issued by the municipals or generally we call the municipal bonds are issued basically for some specific purpose.

And the revenue or the use of those kinds of securities vary on the basis of the nature of the instrument which is issued in that particular market. Then today we will discuss the certain securities which are issued by the commercial banks or the debt instruments which are issued by the commercial banks.

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So, as you know that the commercial bank is one of the most important financial entities in the financial system and they generally play the significant role in terms of issuance of certain kinds of long-term and short-term securities. Particularly the debt instruments for financing the working capital requirements of the companies. And also, the financing of some long-term investments for the companies.

So, if you look at the different types of instruments which are issued mostly if you talk about the bond type of instruments or the characteristics; which are very much compatible with the bond. These are basically the certificate of deposits, bank notes and the banker's acceptances. And as you know that the banks are always known for providing the loans to the corporate sector for their short-term and long-term needs.

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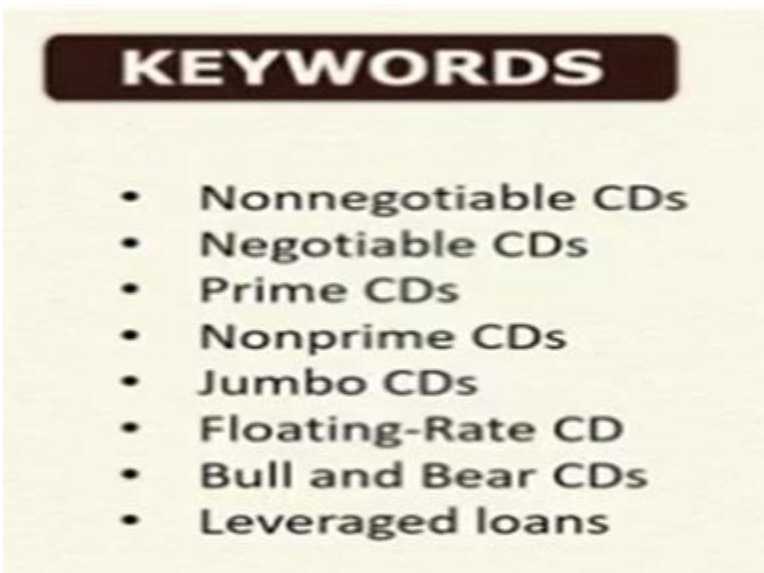

So here you will come across a certain kind of keywords like non-negotiable certificate of deposits, negotiable certificate of deposits, prime certificate of deposits, non-prime certificate of deposits like that. Then you have certain certificates of deposits like jumbo CDS, floating rate CDS, bull and beer CDS, leveraged loans and all kinds of keywords basically we will come across while discussing the different types of instruments which are issued by the commercial banks.

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So let us discuss this largely the debt instruments, the debt instruments if you talk about from the commercial banking perspective; that already told you these are mostly the certificate of deposits bank notes, banker's acceptances and the bank loans.

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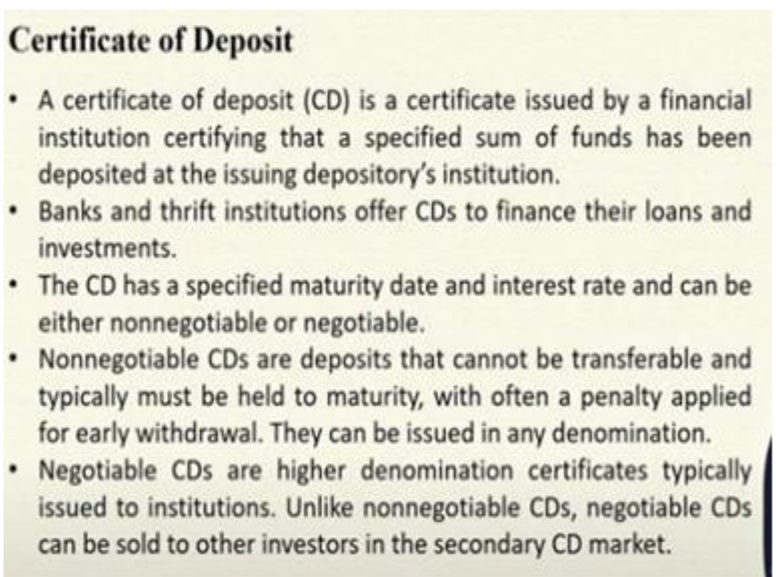

So first we can start with the certificate of deposit. What do you mean by a certificate of deposit? If you recall that whenever you talk about the short-term instrument of the companies issues generally those are called the commercial papers. These are also the short-term instruments and those short-term instruments the company basically rises to finance their short-term needs like your working capital financing.

So here the certificate of deposit is also the same type of instrument which are issued by the banks to fulfill certain kinds of short-term requirements. So, what exactly the certificate of deposit means it is a kind of certificate which is issued by the bank or any financial institutions, certifying that the specified some of the funds has been deposited at the issuing depository institutions.

And who are basically issuing this kind of instrument? These instruments are basically issued by the banks and some of the other thrift institutions which are operating in the particular financial system. And generally, those CDs are finance their loans and generally they offer these CDs to finance their loans and the investments. So, the CDs is also like other financial instruments, they have a specified maturity date and interest rate and can be either negotiable or non-negotiable.

So, what do you mean by the non-negotiable CDs; the non-negotiable CDs basically are the deposits that cannot be transferred and typically must be held to maturity. And often a penalty is applied for early withdrawal if anybody wants to withdraw that particular deposit beforehand then some penalty will be imposed on them. And they can be issued in any denomination. So, the non-negotiable CDs are held up to maturity largely. And why basically it is held up to maturity because if there is an early withdrawal then the penalty will be imposed upon them.

The negotiable CDs are higher denomination certificates typically issued to the different institutions and this can be sold to the other investors also in the secondary market. Both negotiable and non-negotiable CDs; Sorry the negotiable CDs basically can be invested in the secondary market but the non-negotiable CDs are not.

So, in that case there is a proper market for the negotiable CDs but particularly the secondary market but for the non-negotiable CDs secondary market is basically not existing.

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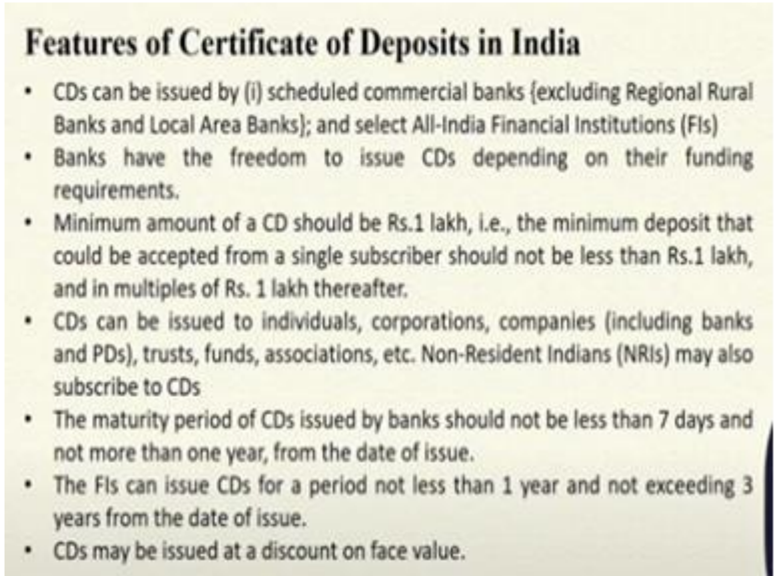

So here if you look at the different features of the certificate of deposits in India. So here already what we have discussed is that the CDs can be issued by the scheduled commercial banks excluding this RRBs (Regional Rural Banks) and also the local area banks. So, they are not eligible to issue the certificate of deposits but it can be issued by some of the all-India financial institutions.

All India financial institutions means they are basically established for some specific purpose for example NABARD; NABARD is all India financial institutions like that there are some of the all-India financial institutions who are eligible to also do the issuance of this particular certificate of deposits. And banks have the freedom to issue the certificate of deposit depending upon their funding requirements but the minimum amount of CDs should be 1 lakh.

The minimum amount of CDs would be 1 lakh that means the minimum deposit that could be accepted from a single subscriber should not be less than 1 lakh; minimum deposit should be 1 lakh rupees. And it can be a multiple of 1 lakh thereafter so the minimum amount of deposits against this particular CDs has to be 1 lakh rupees.

And who are those investors who are basically buying these securities or holding these securities. If you look at this investment perspective generally these investors can be individuals, it can be the corporations, it can be the trust, it can be the other kind of funds, NRIs so all kinds of entities are eligible to invest in the CDs. So, the CD market is almost open to all types of individuals which are existing within that particular system.

And what is the maturity period of the CDs in India? The maturity period of CDs issued by the banks should not be less than 7 days and not more than 1 year. So that means the maturity period of certificates of deposits in India which are issued by the banks generally vary from 7 days to 1 year. But if it is issued by the all-India financial institutions then they can issue the CDs for a period not less than 1 year but not exceeding 3 years.

That means the maturity period of the CDs which are issued by the other financial institutions like all India financial institutions there the maturity period is 1 year to 3 years. And CDs generally are issued at discount and redeemed at the par. So, CDs may be issued at a discount on the face value. So that is another characteristic also you can add or another feature you can add whenever you talk about the feature of the certificate of deposits in India. These are the different features that we see whenever certificates of deposits are invested in the Indian market.

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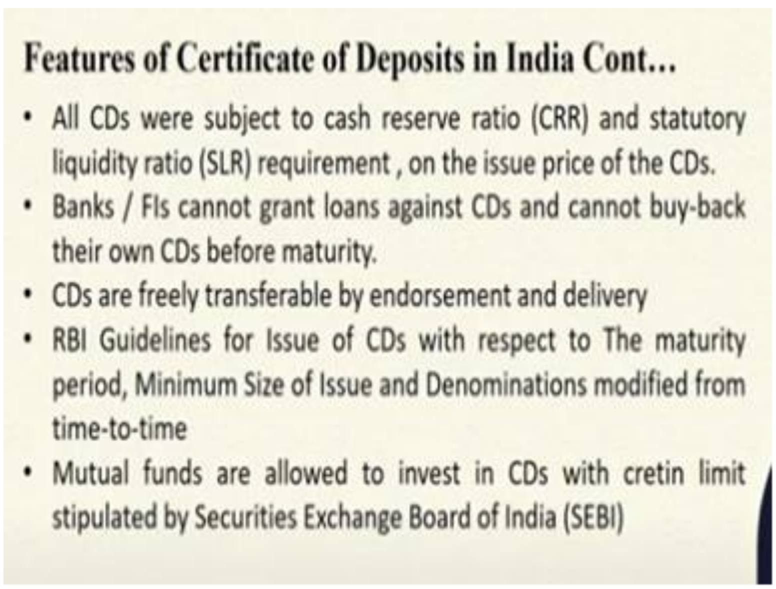

So, another thing also if you see all CDs are subject to the cash reserve ratio and the statutory liquidity ratio requirement. All CDs are subject to the CRR and SLR requirement on the issue price of the CDs. But one thing the banks and the financial institutions cannot grant the loans against the CDs or also cannot buy back their own CDs before the maturity. That means if you are using or you are trying to use CD as a collateral for getting the loan from any kind of bank then it is not allowed or the same bank who has issued the CDs, they cannot basically buy back their own CDs before the maturity.

So, CDs in India generally freely transferable by endorsement and the delivery. Time to time the guidelines for the issuance of CDs with respect to the maturity or size or denomination can be modified and the regulatory body of this kind of process is the reserve bank of India. Mutual funds also are allowed to invest in CDs with certain limits but which are fixed by the securities indexing board of India (SEBI).

There also can have some components they can invest in the certificate of deposits but with the limit whatever has been stipulated by the savings so these are some of the features of the certificate of deposits with respect to the Indian market.

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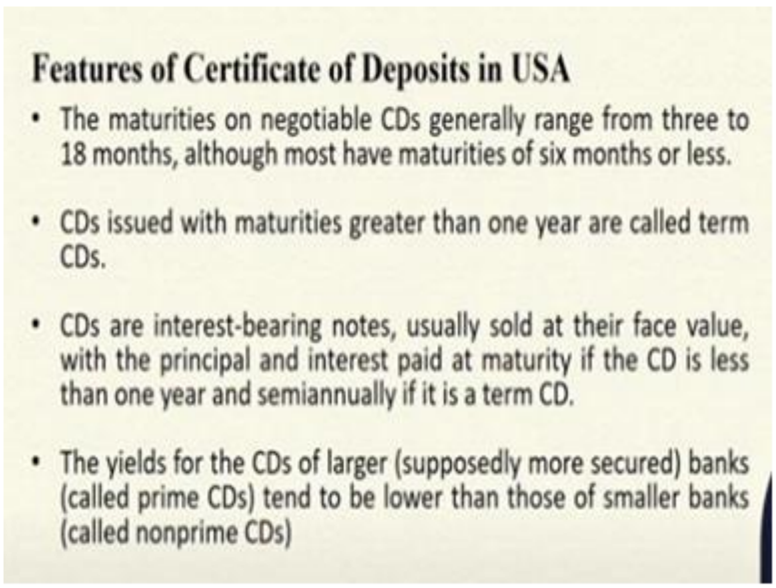

Let us discuss something about the features of certificate of deposits in the US market. For a comparative reason we have discussed the CDs in the Indian market now we come to the CDs in the US market. Is there any difference or not? If you look at the maturity, the maturities on the negotiable CDs generally range from 3 to 18 months in the US market. But it has been observed that most of the CDs which are issued in the US market have a maturity period either 6 months or less but it can range from 3 months to 18 months.

Little bit of the maturity period with reference to India if you look at our banks it varies from 7 days to 1 year; in the US market the maturity period is relatively different. The CDs whose maturity period is greater than 1 year are called the term CDs in the US markets. The CDs issued with the maturity greater than 1 year are called then only the term certificate of deposits in the context of the US.

CDs are basically the interest-bearing notes usually sold at their face value with the principal and interest generally paid at the maturity. If the CD is less than 1 year and the payment will be semiannually if it is a term CDS. So, if the maturity period is less than 1 year then obviously all the payments will be made in the end for that particular maturity but if it is more than 1 year then the semi-annual interest payment can be possible in that particular context.

If you look at the general trend of the yield of the CDs, yields of the CDs generally are larger banks, generally if you look at yields for the CDs of the larger banks. Generally, they call it the prime CDs tend to be lower than the CDs which are issued by the smaller banks which are called the non-prime CDs. So, because the larger banks are considered as the most secure banks or they have from the resource point of view or resource allocation point of view and the utilization point of view they have the advantage over the smaller banks.

So that's why the CDs which are issued by the large banks are called the prime CDs and the CDs which are issued by the small banks are called the non-prime CDs. But obviously because of the less risk and the high security the yields of the CDs of the larger banks is lesser than yields of the CDs of the smaller banks, so that is another thing what we can observe from the US context.

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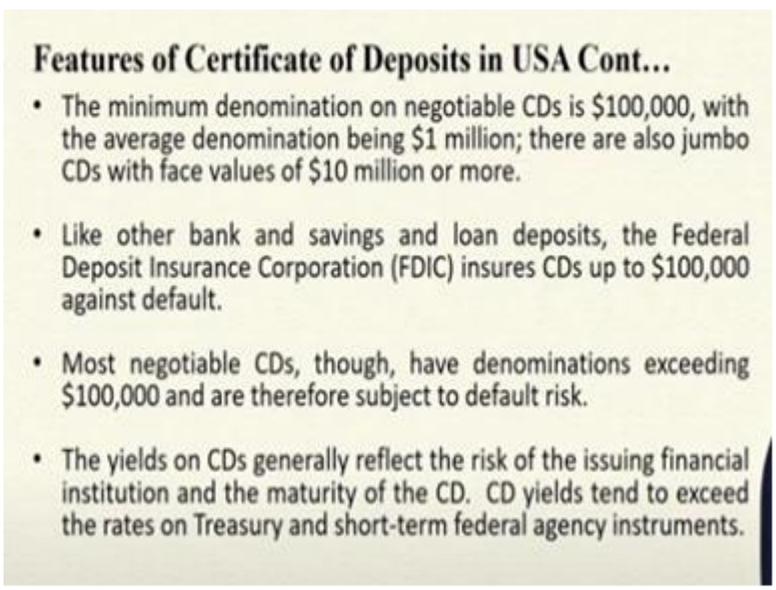

Further also, if you see that the minimum denomination of the negotiable CDs which are traded in the US market is 1 lakh dollar ($100,000 dollar), in India we have 1 lakh rupees and they have 1 lakh dollar. With the average denomination being 1 million and there are also the called the jumbo CDs and by name itself there the face value of these particular CDs is 10 million dollar and more.

So, if the face value of any kind of CDs is going beyond these 10 million dollars and more, then the US market they call it the jumbo CDs. Like other bank savings and the loan deposits the federal deposit insurance corporation that FDIC generally they go for insuring the CDs up to the 1 lakh dollar against any kind of default. So, there is a limit that has been fixed: the FDIC provides the insurance up to the 1 lakh dollar against any kind of default risk.

If there is any default for the payment of the principal or the interest in the future so to cover up that particular default risk, they can go up to insurance of 1 lakh dollar. Most negotiable CDs has been observed in the US market to have denominations exceeding this 1 lakh dollar and therefore there are some default risks involved in that. Because there is coverage up to 1 lakh but if the CDs which are issued whose values face values are more than 1 lakh dollar, so because of this some amount of default risk is involved with respect to that.

So, if you look at the yield on CDs the return on CDs generally reflects the risk of the swing financial institutions and the maturity of the CDs, the yield generally depends upon that the risk and as well as the maturity. So, the CD yields tend to exceed the rates on the treasury and the short-term federal agency instruments. That means the yield rate of the certificate of deposits are more than the yield of the treasury bills and the other short-term instruments which are issued by the federal agency in the US.

What is the reason, the reason is basically it is considered as the certificate deposits are the riskier instrument than the instruments like treasury bills and the other short-term instrument issued by the federal agency. So more the risk then the risk premium should be added already extensively we have discussed about the term structure theories. There you might have seen that even though with the same term to maturity the return may be different because of the risk. Or maybe it is also kind of we can say that with the different maturity obviously the interest rates will vary. The long-term interest rates are more than the short-term interest rate because of the risk involved in that part already we have discussed.

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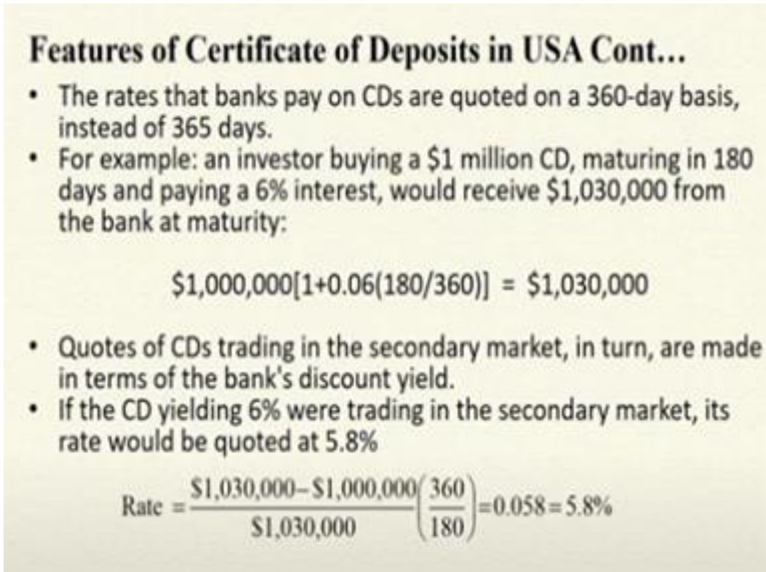

So, the rates that banks pay on the CDs are quoted on a 360-day basis in the US everything they mostly there are 2 ways. Basically, we go to the day count convention. One is your actual by actual; actual by 365 another one is 30 by 360. So, whenever the rates we calculate against the CDs they generally quoted on a 360-day basis instead of 365 days.

What is the example; for example, if you see an investor buying a one-million-dollar CD which is maturing in 180 days and paying a 6% interest then they will receive 1,030,000 dollars from the bank at the maturity. So how we calculate this is 1,000,000 dollars + 1 +0.06 into 180 by 360. So here we are basically considering the basis of a 360 days, 30 by 360-day count convention so effectively they will be getting 1,030,000.

$\$1,000,000\,[\,1 + 0.06\,(180/360)] = \$1,030,000$

What if we look at the quoting of the CD trading in the secondary market if you look at that aspect is little bit different than the rate. How it is different if you look at here, the quotes of CDs trading in the secondary market are made in terms of the bank's discount yield**.** So, if the CD is yielding 6% while trading in the secondary market then what is the rate of that rate will be calculated in this way that is your 1,030,000 – 1,000,000 divided by 1,030,000 into 360 by 180.

$$\text{Rate} = \frac{\$\,1{,}030{,}000 - \$\,1{,}000{,}000}{\$1{,}030{,}000}(360/180) = 0.058 = 5.8\%$$

So effectively the yield basically the discount yield what we are calculating in this case is 5.8%. So, if the CD which is trading at, if the CD is yielding at 6% then if they will be traded in the market then the rate will be quoted as 5.8%. So that is the way the secondary market quotes are basically reported with respect to the CD of the maturity of 180 days in this particular example.

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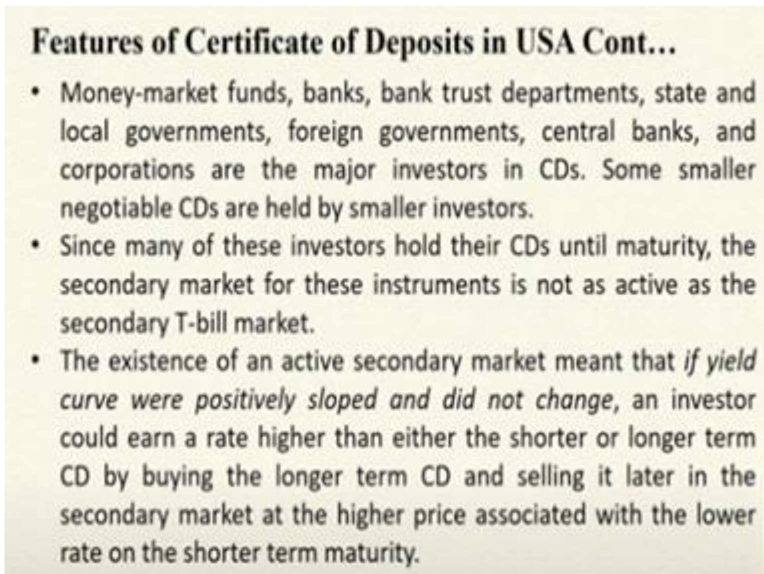

So then other things if you look at with respect to the US market that the money market funds banks, bank trust department, state and local governments, foreign governments, central banks and corporations who are the major investors in CDs. And some smaller negotiable CDs are held by the smaller investors also. But the CDs market if you look at the investment point of view then mostly the investments are made by the very large organizations like banks and the corporations and all.

So, if you look at the general features of the CDs are generally held up to the maturity generally; the investors hold their CDs until the maturity period. So once somebody is holding the CD up to maturity then obviously the secondary market for these instruments is not active like the treasury bills market. So, what basically does it mean because if nobody is going to redeem that particular CDs before the maturity or they are not going to sell that security before the maturity, then obviously the secondary market trading is not happening in that particular context.

For example, if you are holding a bond up to 10 years maturity, if you are selling the bond at the end of the 5 years and 6 years then only you are taking the help of the secondary market. And accordingly, the total return and all these things are going to be changed but if you are holding up to the maturity obviously your return what you are expecting that you will be getting that total return will be the same.

And in that particular context the availability of the secondary market is not possible. So that is basically the general characteristics what we have observed with respect to the certificate of deposits market in the US or as well as in India. The existence of an active secondary market means that if the yield curve were positively sloped and did not change an investor could earn a higher rate higher than either shorter- or longer-term cd.

By buying the longer-term CD and selling it later in the secondary market at the higher price which is associated with the lower rate on the short-term maturity that is possible if you have a proper active secondary market with respect to that instrument. But that is not prevailed or that is not happening with respect to the certificate of deposits market.

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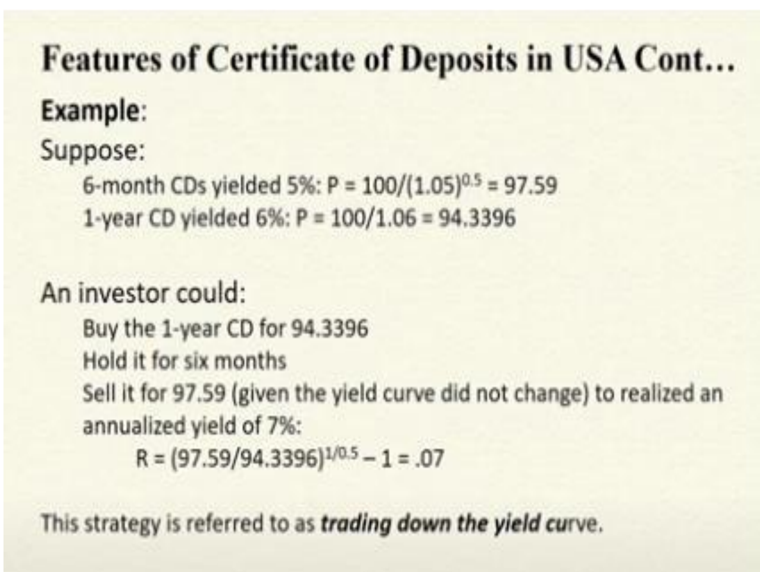

Then if you see that let if you talk about one example how basically this is possible with respect to the secondary market. Let there is a 6-month CD which is yielding 5%, then what is the p or price; price is equal to 100 by 1.05 to the power 0.5 so you will get a price of 97.59. Now let 1 year CD be yielding 6% then what is the price then price is equal to 100 by 1.06 you will be getting 94.3396.

Then in that case what the investor can do the investor; can buy the one-year CD which is at a price of 94.3396, hold it for 6 months, keep it with him for 6 months and sell it for 97.59 assuming that the yield curve did not change. Then what will happen obviously his annualized yield will be 7% how the annualized will be 7% because it will be 97.59 divided by your 94.3396 to the power 1 by 0.5 – 1, 1 by n that basically -1 that will be giving you 7%.

6-month CDs yielded 5%: $P = 100/ (1.05)^{0.5} = 97.59$

1-year CD yielded 6%: $P = 100/1.06 = 94.3396$

$R = (97.59/94.3396)^{1/0.5} – 1 = .07$ or 7%

So, this strategy any investor can adopt if you have an active secondary market which is prevailing in this particular system. So, this strategy is generally referred to as the trading down the yield curve then we call it trading down the yield curve. But that sometimes is not possible if you do not have an active secondary market with respect to that instrument.

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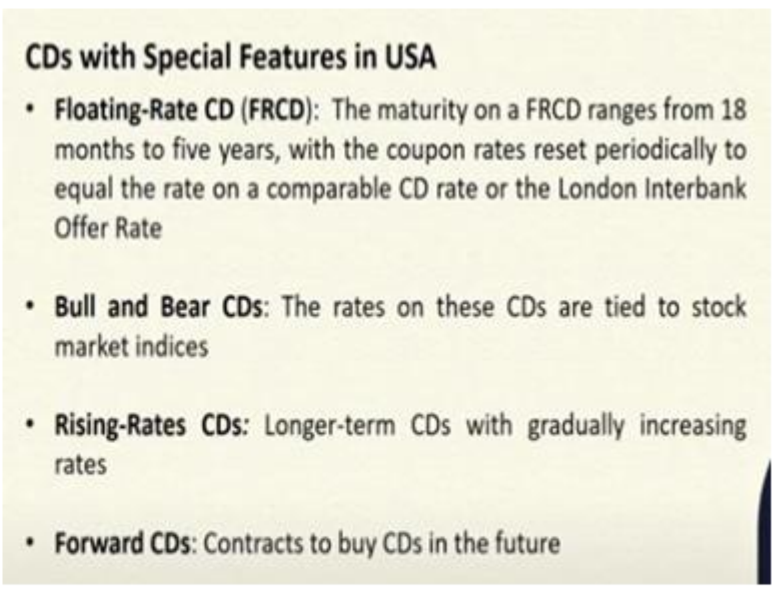

Then we have some special features of CDs like floating rate CDs in the US market particularly the maturity of this floating rate CDs will range from 18 months to 5 years and the coupon rates are reset periodically to the rate on a comparable CD rate or the London interbank offer rate or the libor rate. Already the floating rate bonds calculation we have discussed before and how the rates are reset on a periodical basis on the basis of a benchmark generally the rates are reset.

So here the benchmark is libor or it can be a comparable CD which is available in the market with respect to that maturity. You can have a bull and beer CDs these rates generally the rates on these CDs are tied with the stock market indices so on the basis of the return that we get from the popular stock market indices accordingly the rates are decided for these CDs. The rising rate CDs longer term CDs with gradually increasing the rates more the maturity period more the return.

Then you have the forward CDs here are the contracts to buy the CDs in the future. So, these are the some of the CDs which are available in the US market, what we call the CDs with some special features which are traded in the or which are available in the US market.

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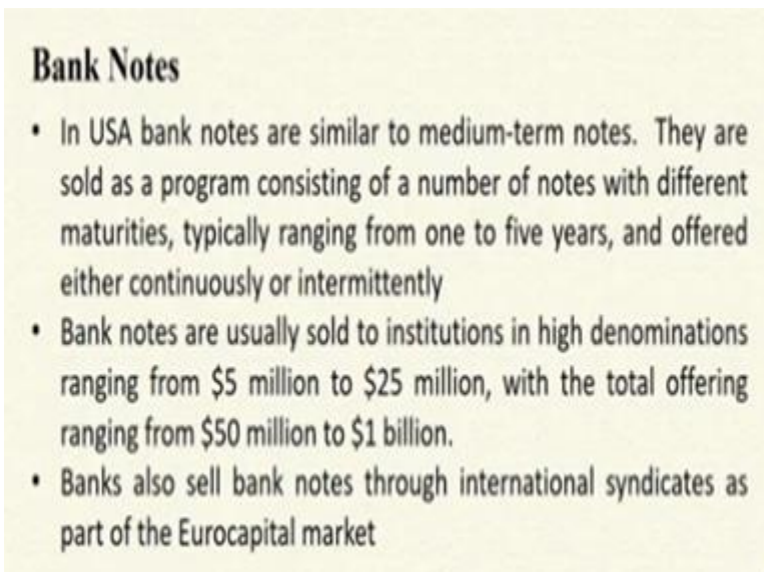

Then another instrument what they basically provide that is called the banknote. So, in the US the bank notes are similar to the medium-term loans; they are generally sold as a program consisting of a number of notes with different maturities, generally they are typically ranging from 1 to 5 years. And offered either continuously or maybe there can be a discontinuity between that.

So, bank notes are usually sold to the institutions in high denominations. The value can range from 5 million dollar to 25 million dollars with the total offering ranging from 50 million to 1 billion dollars. Banks also sell the bank notes through the international syndicates as a part of the euro capital market the banks also sell this type of notes through some kind of international agencies or international bodies or international associations or some international syndicates.

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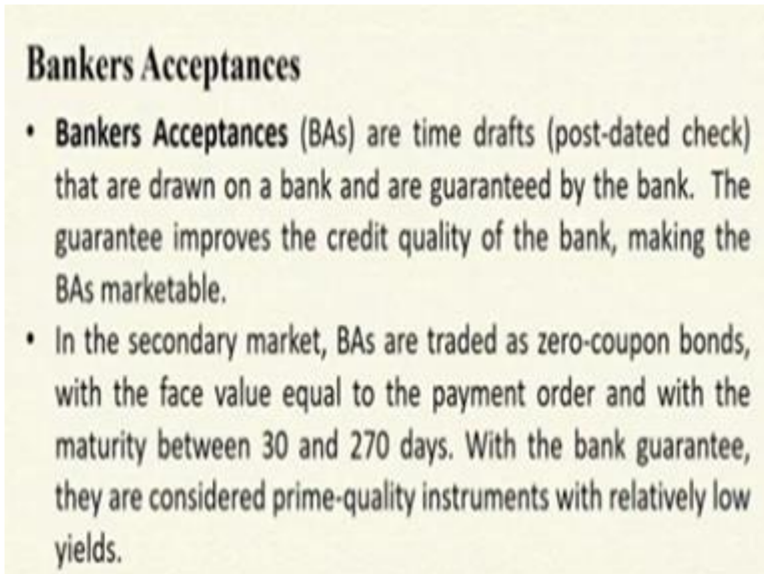

Then we have another instrument that is called the banker's acceptance. So, these are basically the time drafts or the postdated cheques you can say that are drawn on a bank and guaranteed by the bank. The guarantee basically improves the credit quality of the bank making the banker's acceptances marketable. In the secondary market the banker's acceptances are traded as a zero-coupon bond with the face value equal to the payment order and with the maturity between the 30 days to 270 days. With the bank guarantee they are considered the prime quality instruments with relatively low yields.

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Bankers Acceptance (Example)

- Consider the case of a U.S. oil refinery that wants to import 2 million barrels of crude oil at $50 per barrel ($100 million) from an oil producer in Brazil.
- Suppose the Brazilian oil exporter wants to be paid before shipping, whereas the U.S. importer wants the crude oil before payment.
- To facilitate the transaction, suppose they agree to finance the sale with a BA in which the U.S. importer's banks will guarantee a $100 million payment 60 days from the shipment date.
- With this understanding, the U.S. oil importer would obtain a letter of credit (LOC) from his bank. Let the LOC would say that the bank would pay the exporter $4M if the U.S. importer failed to do so.
- The LOC would then be sent by the U.S. bank to the Brazilian bank of the exporter.
- Upon receipt of the LOC, the Brazilian bank would notify the oil exporter who would then ship the 2 million barrels of crude oil.
- The oil exporter would then present the shipping documents to the Brazilian bank and receive the present value of $100 million in local currency from the bank.

So let us see that how the banker's acceptance basically works. You see this example, consider a case where let there is a US oil refinery that wants to import 2 million barrels of crude oil let 50 dollars for barrel that means 2 million barrels that means 100 million dollars. From an oil producer in Brazil, assume this is the hypothetical example: suppose the Brazilian oil exporter wants to be paid before the shipping, whereas the US importer wants the crude oil before the payment right.

So here there is a trust factor works here, so then how this particular transaction can be facilitated So to facilitate the transaction suppose they agreed to finance the sale with a banker's acceptance. In which in their particular banker's acceptance the US importer's bank will guarantee 100-million-dollar payment 60 days from the shipment. So, with this understanding what will happen, the US oil importer would obtain a letter of credit LOC from his bank.

And let the LOC would say that the bank would pay this exporter let 4 billion dollars if the US importer failed to do so. This is the hypothetical number that we have taken. Then the LOC would then be sent by the US bank to the Brazilian bank of the exporter then once this Brazilian bank receives this LOC, they will notify the oil exporter who would then ship these 2 million barrels of the crude oil.

So, the oil exporter would then present this shipping document to the Brazilian bank and receive the present value of the 100 million local currencies from the bank itself. So that is a bank basically looks as a guarantor in that particular context that increases the value of that particular agreement, so that is basically what we call it the banker's acceptance.

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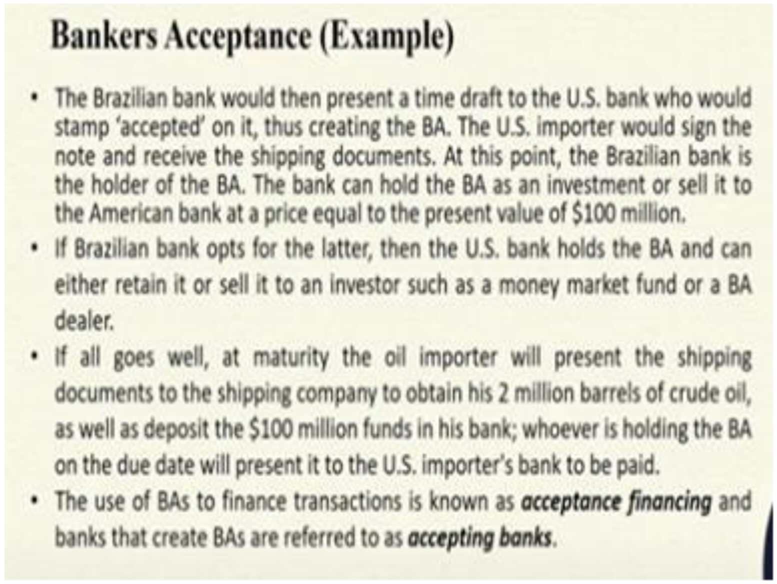

So, what will happen is the Brazilian bank would then present the draft to the US bank who would stamp this acceptance on it and create this banker's acceptance. And the US importer would sign the note and receive the shipping document and at this point the Brazilian bank is the holder of the banker's acceptance. And the bank can hold this banker's acceptance as investment or sell it to the American bank as a price equal to the present value of 100 million dollars.

So, the Brazilian bank opts for the latter thing so then the US bank holds the banker's acceptance and can either return it or sell it to an investor like the money market fund or the banker's acceptance dealer. If all goes well then at maturity the oil importer will present the shipping document to the shipping company to obtain the 2 million barrels of crude oil as well as deposit 100 million funds in his bank.

Whoever is holding the banker's acceptance on the due date will present it to the US importers bank to be paid whether it is a money market fund or whether it is the Brazilian bank. So, the use of the banker's acceptance to finance the transactions is generally known as the acceptance financing and the banks that create this banker's acceptance are known as the accepting banks. So, this is another instrument what the banks generally provide as a part of the debt financing.

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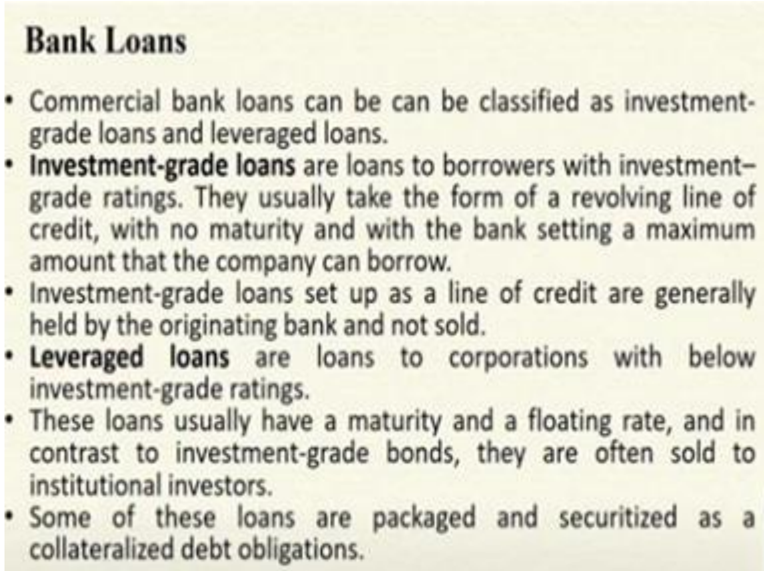

Then bank loans that all of you are very much aware about this; the commercial banks loan if you look at there are many classifications. On the basis of the different types of housing loan, you have the personal loan or education loan, you have the different types of loans in the Indian context you can look at. But there are some classifications of the US market also do, they can classify this particular thing as investment grade loans or the leveraged loans.

The investment grade loans mean the loans are given to the borrowers with investment grade ratings, they should have the investment grade ratings. They usually take the form of revolving line of credit with no maturity and with the bank setting a maximum amount that can company can borrow. But the leveraged loans are loans to corporations with below the investment grade ratings they usually have a maturity and a floating rate and in contrast to investment grade bonds they are often sold to the institutional investors.

Some of these kinds of leveraged loans are also packaged and securitized as collateralized debt obligations that what will be discussed in the future sessions. So, this is another classification you can also observe and this is another instrument what the bank can provide as a part of the debt financing.

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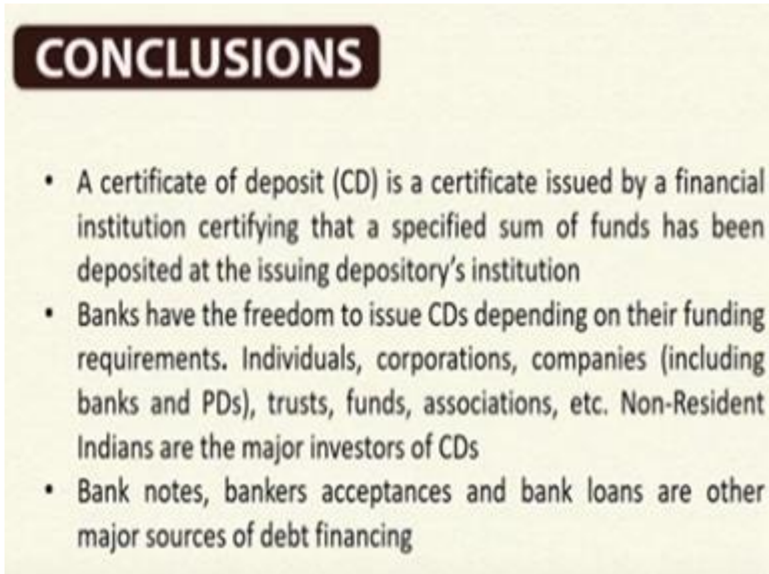

So, what basically we have discussed certificates of deposit. This is a kind of institution where the banks provide the short-term financing or they raise the short-term financing through that particular issuance. And banks have the freedom to issue the CDs depending upon their requirements and the bank notes, banker acceptances and bank loans are the other major source of debt financing with respect to the commercial banks. And there are some differences we have observed between the certificate of deposit in India and as well as the US market.

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So, these are the references what you can see for the detailed discussion on this.

Thank you.