Management of Commercial Banking
Professor Jitendra Mahakud
Department of Humanities and Social Sciences
Indian Institute of Technology, Kharagpur
Lecture 30
Use of Derivatives in ALM - V

Today's session we will be discussing about typical use of the different kind of structured products which are available in the market and how those structured products are basically used for minimized the interest rate risks as well as the hedging the total risks of the commercial banks. Or mostly for any kind of financial institutions those kind of instruments are popularly used in the today's context.

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So, if you see that mostly after discussing about the derivatives or the detailed discussion on the different type of derivative instruments what we use, in today's context we have very popular words always you might have come across, that securitization and securitization is a very complex process through which the organizations or financial institutions want to maximize their returns.

But we may not say that it is hedging instrument but securitization is a process through which although the basic nature of the securitization is to hedge the risk but most of the time the securitization process is used to speculate the market and to generate extra return from the market.

So, there are many ways the process works. There is a securitization process, there is a sale of loans. Loan again can be sold in the different ways to minimize the risk in the system. You have another instrument called the standby credit and most popular instruments we have like credit derivatives and CDOs. Then we have the different type of benefits and risks always we face because in the today's context these instruments are quite popular.

These are the different kind of complex products which are exotic products what we can say which are used by the different kind of stakeholders to generate the profit. But it has certain kind of risk also but still it has gained his own significance in the risk management process. Let us see one by one how this particular process basically or how these instruments basically work.

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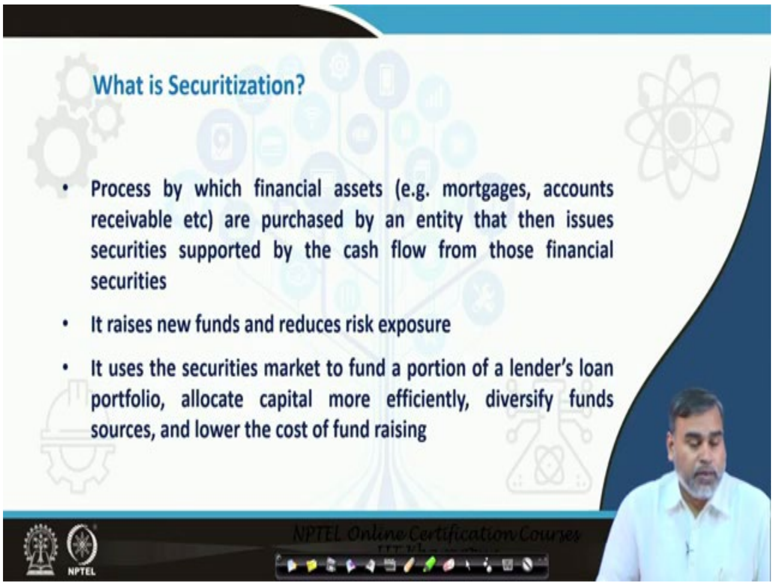

So, first of all we have to understand what do we mean by the securitization. Whenever we talk about the securitization, securitization is basically a process by which the financial assets, it can be anything, it can be mortgage, it can be accounts, it can be loans, it can be anything, it can be receivables and all these things, are purchased by an entity, by an organization.

And then issues the securities which is supported by the cash flow from these financial securities; these financial securities which are basically processed by any kind of financial entity and then those, that financial entity can issue the different securities where the cash flow is supported by these particular financial assets.

So, mostly it is a two-layer product which is relatively risky in nature. But still the different agencies, different financial institutions use it as a kind of instrument to speculate their return in the market and to extract more return from the market. So, according to them it basically helps to raise the new funds, reduce the risk exposure, if everything goes well then the generation of the profit from this kind of process will be relatively higher.

So, it basically uses the securities market to fund a portion of lender's loan portfolio, allocate the capital more efficiently, diversify the funds and also try to reduce the cost of borrowings or cost of raising the funds from the market. So, securitization is a two-layer process where this is the way the process basically works.

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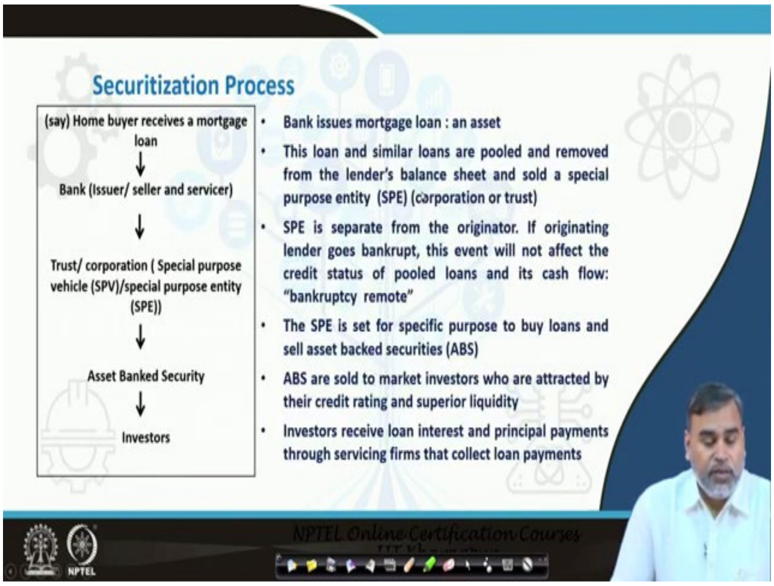

But in this context if you understand what do we mean by the securitization process, securitization process, if you see this example, let there is a home buyer who receives a mortgage loan. Then what basically will happen, this loan particularly the bank uses the mortgage loan which is considered as an asset. And this kind of loans and the similar type of loans are pooled and removed from the lender's balance sheet, bank's balance sheet because here the bank has issued the loan.

It can be removed from the bank's balance sheet, and it will make a different kind, you can covert those things in a different kind of asset and sold to a particular organization who is called the special purpose entity - SPE, that special purpose entity can be a corporation, it can be a company, it can be a trust, it can be anybody.

So, then what this special purpose vehicle or special purpose entity what basically they will do? They basically different from the originator of that particular, may be different from the bank, or it is separate from the bank. So, then what will happen that they will basically use that particular asset to generate the fund from the market. So, it is considered as an individual asset and that asset can be utilized to generate the funds from the market.

So, if originating lender goes bankrupt this event will not affect the credit starters of the pooled funds and the cash flow; so this special purpose vehicle or special purpose entity is set for specific purpose to buy the loans and sell, buy loans and sell asset-backed securities. From there they basically sell the asset-backed securities and these asset-backed securities are sold in the market by the investors, to the investors who are attracted by their credit rating in the superior quality.

So, investors basically receive the loan interest and the principal payments through the servicing firms that collect the loan payments. So, the originating assets is the loans, mortgage-based loans which have come from the bank and those banks have been converted into another type of asset by a special purpose vehicle, special purpose entity and which is set up by a kind of corporations or anybody and from there they can create these asset-backed securities and those asset-backed securities comes to the market, and this investor, the individual investors and other investors invest in that.

So, this is the way the securitization process works. So, that means your typical asset which is loan, it has been converted into asset-backed securities in the end. So, if there is something goes wrong with the bank also, your value of this particular asset it is not going to be affected by that. So, this is the basic objective of the, or basic process of securitization what basically we see.

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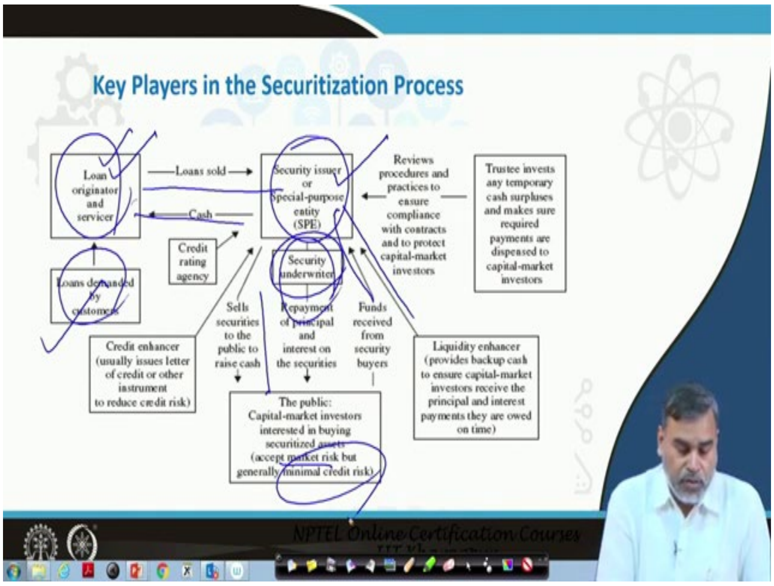

Who are those key players in the securitization process? Already we have seen that we have a loan originator which is basically the bank or the servicer. They basically sold that loan to the special purpose entity or the security issuer and this security issuer basically works as an underwriter, they give the guarantee to that of the repayment of the principal and interest on the securities and then it comes to the public like capital market investor who are interested in buying the securitized asset.

It basically accepts the market risk depending upon the market fluctuations the value of the assets may change but generally minimal credit risk because this particular SPV who is basically trust or the corporate, they have the good credit rating agency who has the credit worthiness to provide these kind of facilities to the investors.

So, then what happens that the loan, basically from where the loan comes to the originator, it, loan is basically demanded by the customers and credit rating agency gives the good rating to them and finally they sell the securities to the public and funds received from the security buyers, it also goes to the SPE and that SPE pays that cash or the money to the originator.

And another way they also create the liquidity in the market. So, the liquidity enhancer who provides basically backup cash to ensure the capital market investor, they receive the principal and the interest payments and that also goes to SPE and here the trustee who invests any temporary cash surpluses in that particular kind of instruments, they basically reviews the procedure and practices to ensure the compliances are made and all and that also flow to, go to the SPE.

So, SPE is the central point of this particular entity and SPE gets the kind of instruments from the originator. The originator get it from the customers and after that it basically goes through this particular channel and finally this investor will be ready to invest that particular money in the market which is coming from the SPE, SPV as an asset-backed security. So, this is the way basically the players work in this particular system and accordingly the securitization process works.

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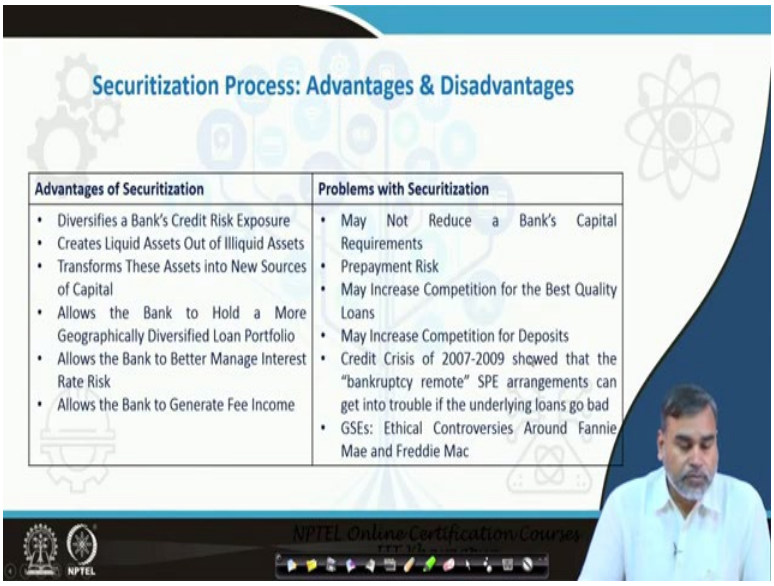

So, there are many advantages, disadvantages what we can observe. Advantages diversifies the bank's credit risk exposure, creates liquid assets out of illiquid assets, transforms these assets into new sources of the capital from the public, allows the banks to hold more geographically diversified loan portfolio, allows the bank to better manage the interest rate risk, allows the bank to generate the fee income.

It has many problems because it is a very risky instrument. May not reduce the bank's capital requirements, prepayment risks is involved there, may increase competition for the best quality loans, may increase competition for deposits also, and if you observe the 2007-08 crisis, it has already shown that bankruptcy remote the SPE arrangements can get into trouble if the underlying loans go bad.

The customers are not able to repay that particular money then the underlying asset is in the trouble then by that the other values of the money which are based upon that, that is going to be into the trouble, and we have many examples on this which is arising mostly in the US market because this market is most popular in the US than any other countries in the world.

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So, here what are those fees and payments are involved in the securitized loans? We have coupon which is promised to investor who buy the securities, default rate on the pooled loans, fees to compensate for the servicing loans, fees paid to advice and setting up securitization process, fees paid for providing liquidity enhancement, residual income for the security seller, trust or the credit enhancer.

There are many types of cash flows where payments and fees are involved in this particular process that is why the process is relatively more complex in nature whenever we use that process for the minimization of the risk in the market.

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There are many assets which are used for securitization. We have residential mortgage which is the starting point for the securitization process. We have home equity loans, that also can be used; automobile loans, commercial mortgages, small business, administration loans, mobile home loans, credit card receivables, leasing of the trucks so all kinds of, whatever assets which are there, all those instruments which are available with the banks and other financial institutions they can use those assets to be securitized in this particular process. They can pool the funds and accordingly the asset-backed securities can be created out of this.

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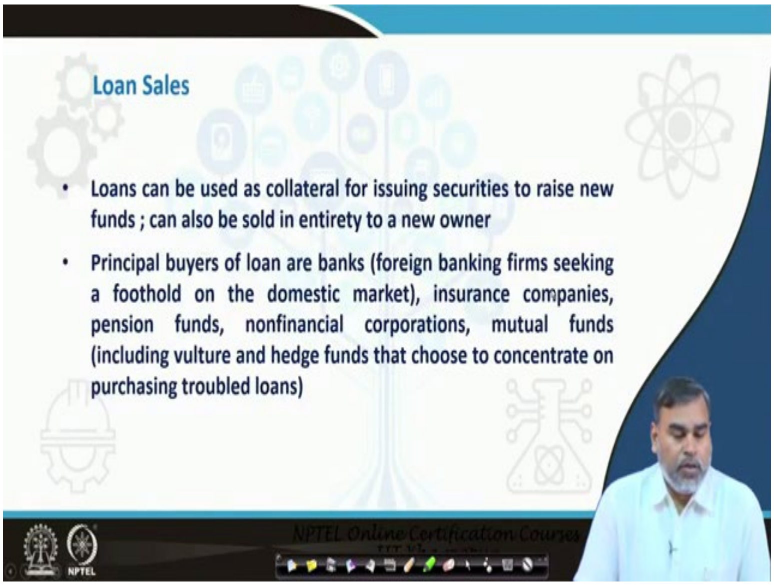

Then another type of asset which is used, in this particular context that is called the loan sales. What this loan sales means the loans basically always can be used as a collateral for issuing the securities to raise new funds. Loan is used as a collateral. Loan has a collateral. Again loan is also used as a collateral in this particular process to issue that securities, for issuing the securities which is basically new funds, to generate the new funds. It can also be sold entirely to a new owner.

If you have a loan, that loan again can be sold to entirely to another new owner who is basically responsible for repayment of that particular loan not by the you. The principal buyer of the loan are banks like foreign banking firms seeking a foothold on the domestic market. Insurance companies, pension funds, non-financial corporations, mutual funds including your hedge funds and all they are basically always concentrate on this kind of loan selling because they want to expand their business by raising the new capital from that particular system and this is one of the system through which the new funds can be created by selling these new loans.

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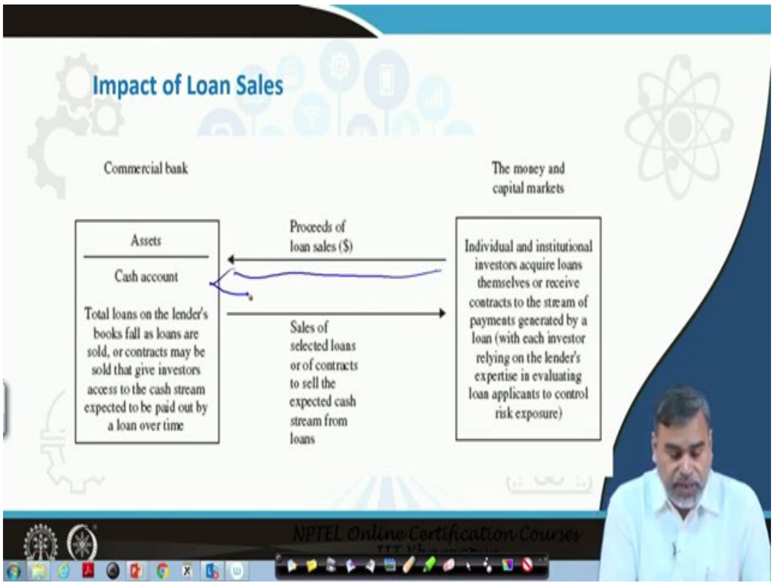

So, how basically this process works? How it basically affects this particular system? Let there is a commercial bank. The commercial bank, here if you see, they have the assets, they have the liabilities. In this context what happens, the total loans of this particular lender's books fall as loans are sold, or contracts may be sold that gives investor access to the cash stream expected to be paid out by the loan over time. So, then these commercial banks can, what they do?

They sell the selected loans, they sell the loans and here the individual, institutional investors acquire the loans themselves or receive the contracts from them, stream of the payment generated by the loan and finally what happens that this can be used as an instrument to generate the funds from the market and whatever revenue generation has been made, some kind of return they basically refund back to this particular commercial bank, and commercial bank can generate certain revenue through this particular process. So, this is the way the revenue generation of the commercial banks can be made.

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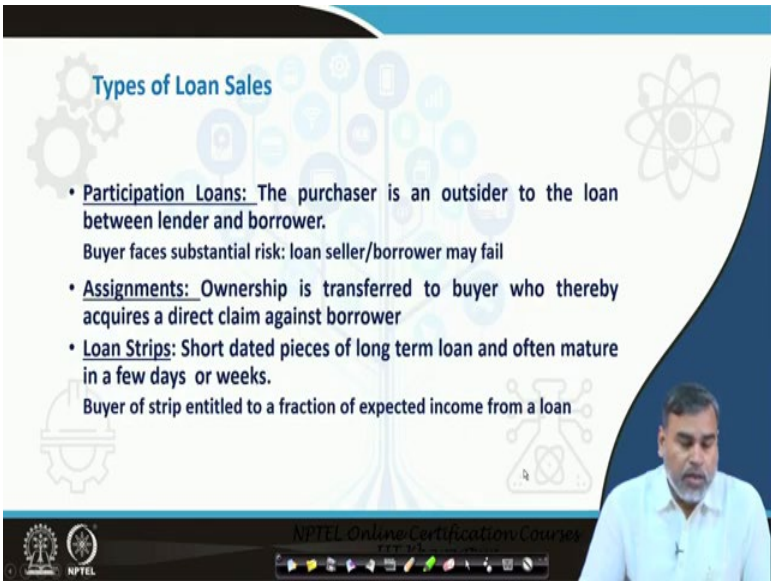

There are different types of loan sales which work. We have participation loans, we have assignments, we have loans strips. When we talk about the participation loans, the purchaser is an outsider to the loan between the lenders and borrower. Buyer faces substantial risk, loan seller or borrower may, if they fail in the particular market.

Assignments are basically what? It is here the ownership is transferred to the buyer who thereby acquires a direct claim against the borrower. Loan strips means it is a short dated pieces of long term and often mature in few days or weeks. Buyers of the strip entitled to a fraction of expected income from that particular loan. So, these are the different type of loan sales which is taking place in the financial system for minimizing the interest rate risks in the banks.

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What are the reason behind the loan sales? Loan sales is basically way to get rid of the bank of lower yielding assets to make room for higher yielding assets when the interest rates rise. Way to increase the marketability and increase the liquidity of the assets.

It is also the way to eliminate credit and interest rate risks in the system. It also helps to generate fee income as a separate kind of services. It also helps purchasing banks, through this the purchasing banks can diversify the loan portfolio and through this diversification process they can reduce the risk also. So, these are the different reasons because of which the commercial banks can go for the loan sales in the market.

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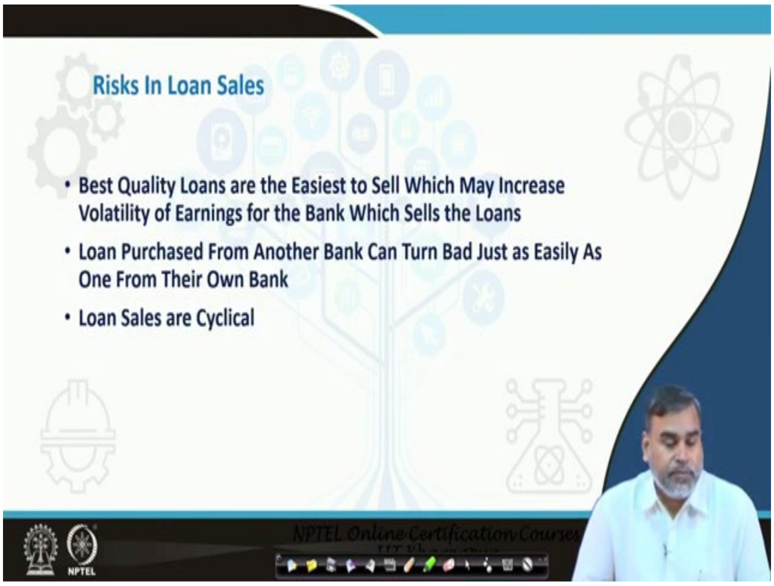

Well there are many risks because the best quality loans are easiest to sell which may increase the volatility of the earnings for the bank which sells the loans. Loans purchased from another bank can turn bad just as easily as one from their own bank and loan sales are cyclical. That means they are prone to the business cyclic fluctuations. So, because of that sometimes we are exposed to some more market risk and the other type of risk what basically prevailed in the system.

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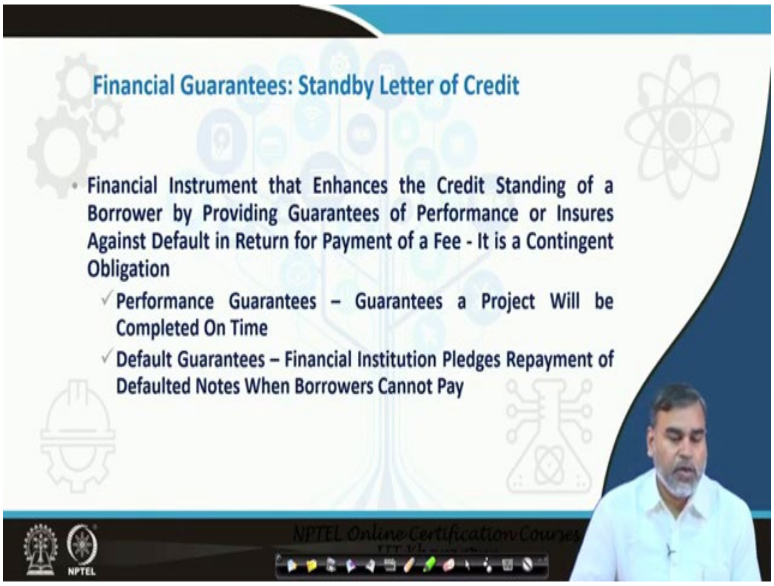

Then we have another type of instrument which is called the financial guarantees or the standby Letter of Credit. So, what do we mean by standby Letter of Credit? If you see it is one type of instrument that enhances credit standing of a borrower by providing guarantees of performance.

It basically ensures against default in return for payment of the fee. That means it provides the guarantee that if they are the defaulter then they will basically oblige that particular liabilities whatever they have and against that they basically charge some kind of fee for this.

That is why it is called a contingent obligation, and there are two types of guarantees what these financial institutions make, one is performance guarantees which guarantees the project which will be completed on time and there is a default guarantee that means the financial institutions basically gives a pledge that the repayment of defaulted loads when borrowers cannot pay. If the borrower cannot pay then they will go for payment that.

So, one is related to the time factor and another is related to basically repayment of the default money what the other customer is making and this particular investor, this particular guarantor is ready to provide this kind of compensation to them at the time of the requirements.

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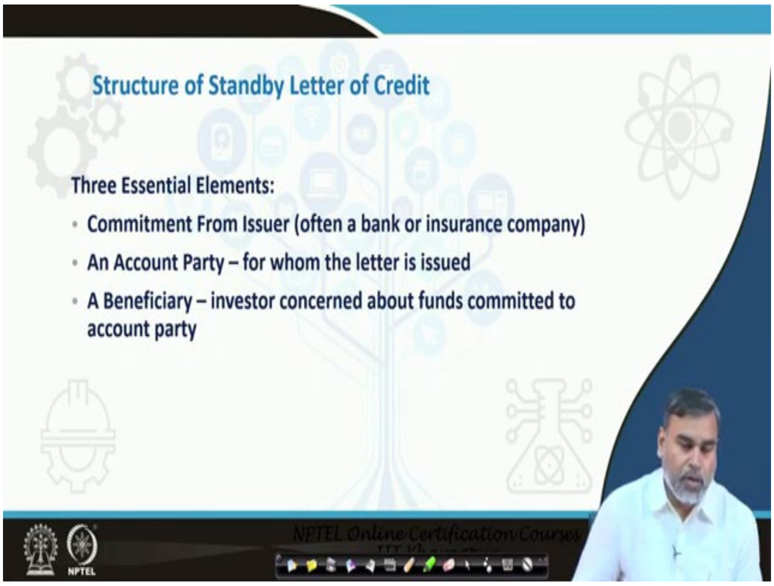

So, there are essential elements how the Letter of Credit basically looks like. It is commitment from the issuer, generally from a bank or an insurance company, an account party for whom the letter is issued, a beneficiary that means the investor, they are concerned about funds committed to account party.

So, if you are the investor then you want to basically, you have some obligations with bank, Bank X then your Bank Y is the guarantor for you so if the bank, at any cost you are not going to pay your principal or the interest in the future for that, then your Bank Y who is the guarantor who wants to take that particular burden and that particular, to take that particular burden they charge certain kind of fee for that or they charge for that.

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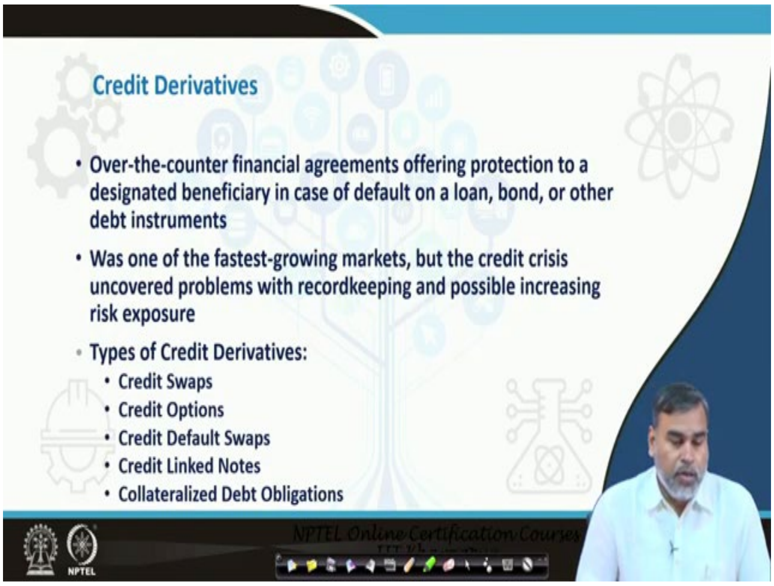

Then we have another type of instrument that is your credit derivatives. So, credit derivatives is a very popular word. So, this is a kind of agreement. It is over the counter financial agreement which basically offers the protection to a designated beneficiary in case of default on a loan, bond or other kind of debt instruments.

So, here if you see that there are many types of credit derivatives which are available in the market. We have credit swap, we have credit options, we have credit default swap, we have credit linked notes, we have the collateralized debt obligations, the CDOs.

So, these are the different types of credit derivatives which are existing in the system and those derivatives, or there may be those kind of instruments are used to hedge the risk or may be sometimes to gain in the market in appropriate point of time.

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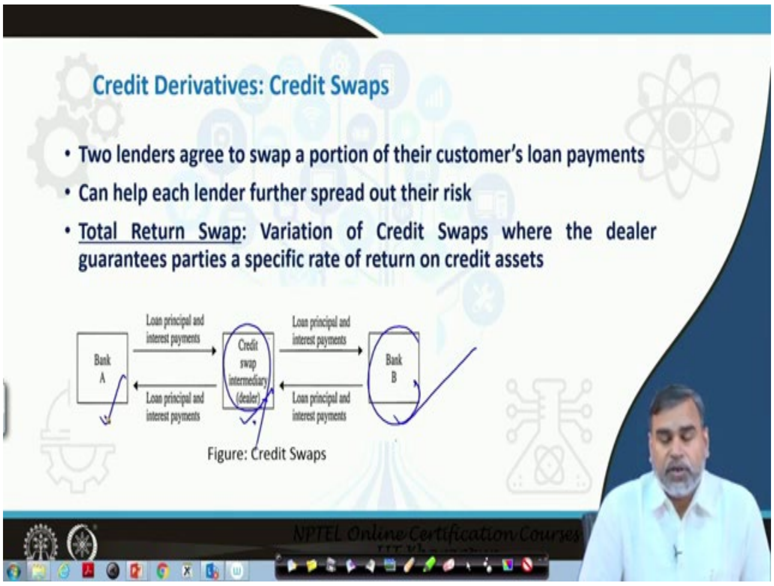

So, how the credit swap basically works? Whenever there is a credit swap, the two lenders agree to swap a portion of their customer's loan payments. So, it can help each lender further to spread out their risk, it is basically helping to diversify the risk.

Then the total return swap what basically happens, variation of credit swaps where the dealer guarantees parties a specific rate of return on the credit assets. So, here there is a Bank A and and there is a Bank B, and there is a credit swap between this Bank A and Bank B then what is happening.

Let there is intermediary in between. There is a credit swap intermediary, there is a dealer here. Then the Bank A basically, the loan, principal and interest payments they are making the intermediary. Then intermediary basically pays to Bank B and Bank B pays to intermediary then the particular intermediary pays to Bank A on the basis of the terms and conditions whatever is made in that particular point of time. That is the way the swap is basically takes place between these two.

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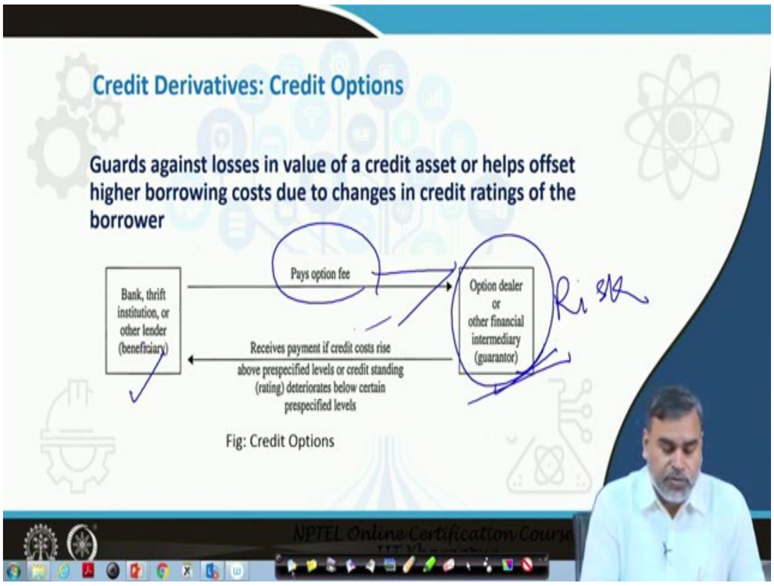

The same way it can be also, we can work out for a credit options, the credit options basically always works as a guard against the losses in value of the credit asset which basically helps to offset the higher borrowing cost due to change in the credit rating of the borrower.

So, if you have the bank here, thrift institution or the lender who are the beneficiary then other dealer or the other financial intermediary who have guaranteed, who are the guarantor then the banks are paying the options fee to them and against that they receive the payment if the credit lost rise above pre-specified levels of credit standing rating deteriorates below the certain pre-specified levels.

So, here, this particular organization is taking the guarantee or the risk and if there is any kind of credit loss happens to whom the banks are providing loans or is there any kind of credit standing deteriorates then this organization has to provide this kind of services or the payment to overcome that particular loss to the banks and other financial institutions who have initiated that transaction at that particular point of time. So, that is the way basically the credit options work in the system.

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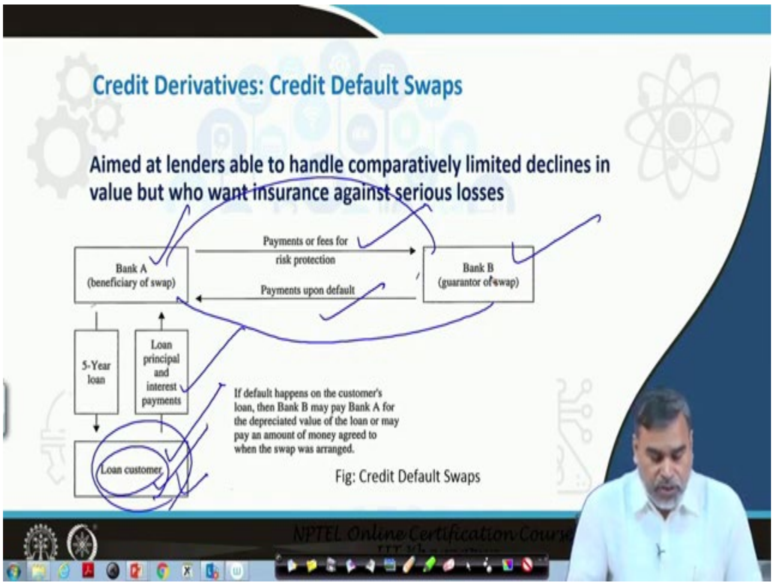

Then we have another more complex product that is the credit default swap. So, here what is basically the objective of the credit default swap, the objective is that lenders are able to handle comparatively limited declines in the value but who wants insurance against the serious losses.

So, here again the same example if you take, the Bank A and the Bank B who is the beneficiary? Here Bank A is the beneficiary and he is the guarantor, Bank A payment the fees for the risk protection and bank B basically pays upon default, if there is a default then Bank B will pay, Bank B will pay Bank A.

So, here, if for example from where the particular money comes? So, here the loan customer who has basically, the bank basically provides the loan to them and that particular money comes to them and here they pay the loan, principal and the interest payments, and that particular payments, if there is any kind of, if the default happens on the customer's loan then the Bank B may pay Bank A for the depreciated value of the loan or may pay an amount of money agreed to when the swap was arranged.

So, here if the customer is a default then Bank B will pay Bank A but against that the Bank A pays the fees to them. Reasonably those fees are quite expensive, they are quite high and if there is any kind of, whenever Bank A provides these loans to them then the guarantor of this particular swap always have the right to understand what kind of loan it is and under what conditions the loan has been provided to them. So, because of that this is the way the channel will go through and accordingly the total risk or the interest rate risk the market can be hedged out.

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Then we have another instrument, the credit-linked loans which is the part of this. It fuses together a normal debt instrument; it combines together with debt instrument such as bonds with a credit option contract to give the borrower the greater payment flexibility.

It grants the issuer that means it is a combination of the spot market instrument like bonds and another one is the credit options which are basically traded in that particular market and to provide a greater flexibility to the investor. So, it grants issuer the privilege of lowering the amount of loan repayments it must make if the significant factors change.

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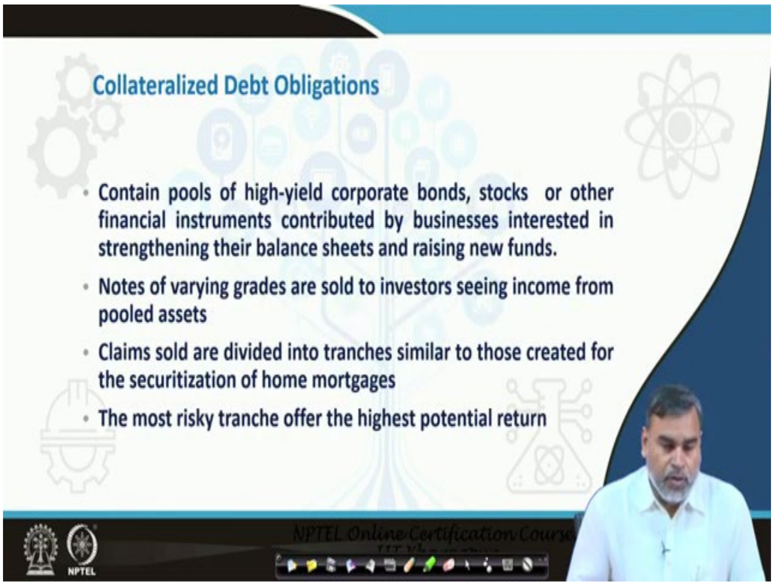

Then we have another instrument called the CDOs - collateralized debt obligations so here the CDOs are nothing but it is a pool of high yield corporate bonds, stocks or other financial instruments which are contributed by the business interested in strengthening their balance sheet in raising the new funds and it is basically a notes of varying grades which are sold to the investor from seeing income from the pooled assets.

Claims sold are divided into different tranches, similar to those created for the securitization of the home mortgages and most risky tranches offer the highest potential return. There are different tranches basically they prepare and which is the most risky tranche, they provide the maximum return as per the risk return tradeoff.

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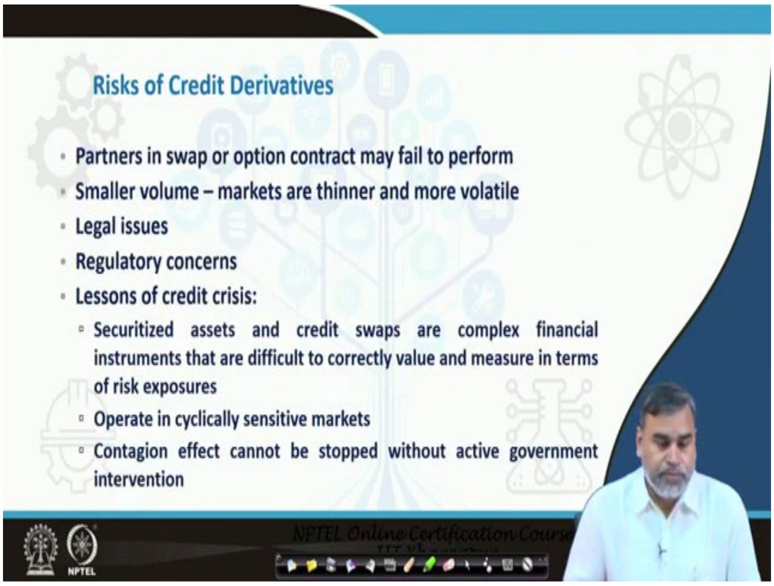

So, there are many risks involved in the credit derivatives. The partners in the swap or options contract may fail to perform if markets are thinner and more volatile. There are many legal issues involved in this particular arguments.

There are many regulatory constraint with respect to the swap contracts and all, then from the credit crisis what has happened over the periods, whatever lessons we got, that the securitized assets and credit swaps are complex financial instruments that are difficult to correctly value and measure in terms of its exposure and operate in cyclically sensitive markets depending upon the business cyclic conditions the value of this particular option change.

Then the contagion effect cannot be stopped without active government intervention because if one market goes, if there anything goes wrong then that has been contaminated or may be there has a contagious effect in other markets which are linked to that particular segment or particular economy. So, in that context the government interventions was very much needed for this particular thing so that was a different risk what we face when we use these exotic products in this.

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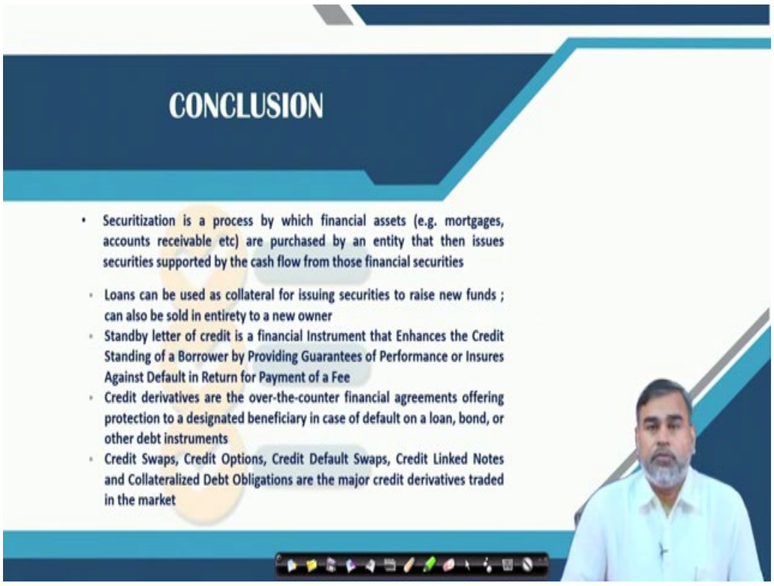

So, we see the conclusions what we discussed. Securitization it is basically pool of the funds through which we can securitize those asset and create asset-backed security and invest it in the market to get rid of certain kind of risk. Loans can be used as collateral for issuing loans to raise the new funds which is called the loan sales.

The standby Letter of Credit is another instrument which provides the guarantee to another bank or another financial institutions on behalf of a particular customer to get rid of the credit risk or other kind of risk in the market, and the credit derivatives are the over the counter financial agreements which offer the protection against the beneficiaries, protection to designated beneficiary against any kind of default on the loans, bonds or other debt instruments.

And credit swaps, credit options, credit default swaps, credit-linked notes and collateralized debt obligations are the major credit derivatives which are traded in the market, which are largely used by the commercial banks to hedge the interest rate in the system.

So, this is the basics of the particular exotic derivatives instrument whatever we have discussed because the complexity of that particular product is quite large and as well as the pricing of those particular securities are really very complex in nature, so which is not a part of this particular curriculum but if you want to go through more detail on this then you can go through the different books on that.

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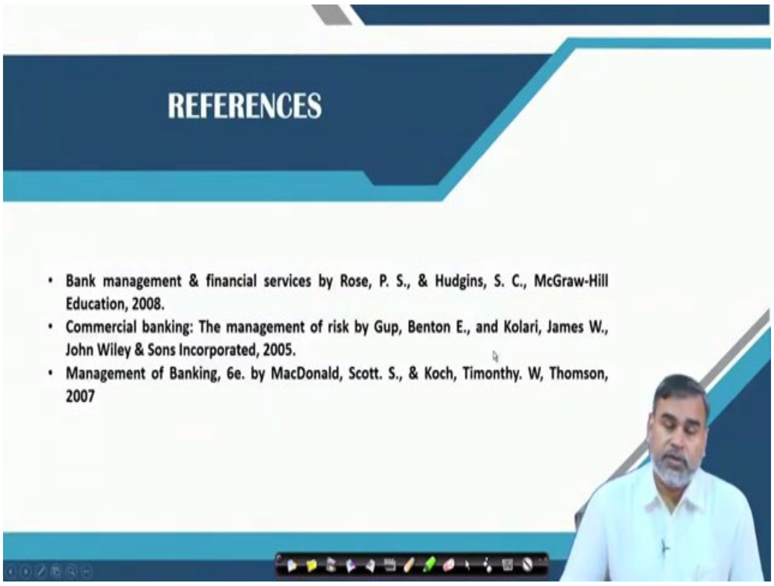

And whatever things we have discussed we can read in elaborate way from these references. Thank you.