Management of Commercial Banking
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Lecture 16
Commercial Bank Risk - I

Good morning, so in the previous class, we discussed about the different approaches which are used for the valuation of the fixed income securities. And as well as certain concepts which are used for the pricing of the deposits and the loans, particularly different type of interest rates which are available in the particular market.

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So, today we can start the discussion on the commercial bank risk and in the forthcoming sessions we will be discussing more about the management and the measurement of the risk from the commercial bank perspective. So, before we going to discuss about the commercial bank risk, let us understand that what exactly the commercial bank risk is? And what are those kind of risk management process the commercial banks follow.

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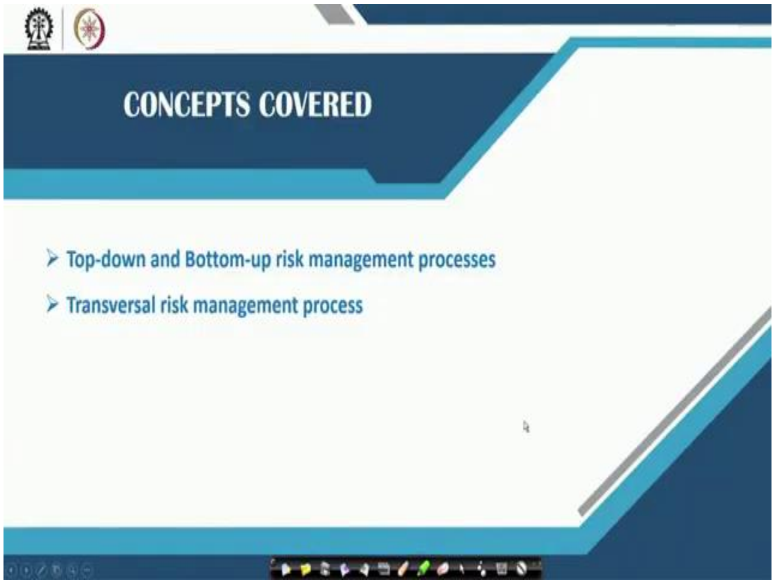

So, whenever we want to talk about a risk management process, the risk management process for any organization is very much inevitable because every organization has certain objectives. And particularly whenever we talk about the financial organization like commercial banks, the basic objective of the commercial banks are to maximize the profit and as well as also to maximize the shareholder’s value. So, in this context, how they can do that? They can do that however, they will minimize the risk.

So, whenever we talk about the risk minimization, every organization including commercial bank follows a particular process or particular methods to quantify the risk and as well as to manage the risk. So, in this context, if you think from the banking point of view, there are two broad types of risk management process. One is we can say vertical and another one is horizontal. And this vertical risk management process whenever we talk about, we generally look at the top-down and bottom up risk management process.

And whenever we talk about the horizontal risk management process we have the transversal risk management process. So, these are two major processes basically, which work in the banking system to manage the risk as a whole. So, today's discussion will cover up these two major aspects of the risk management system in a particular commercial bank.

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Coming back to the concept of risk management, what exactly the risk management is? The basic objective of the risk management is or maybe we can say that the management of banking to maximize, the shareholders wealth, the shareholders' value has to be maximized. That means how we can maximize the market value of the common stock. And as well as already we know another two major objectives for the commercial bank, which are again linked to the shareholders value maximization, that is your bank's profit and as well as the bank's liquidity.

So, mostly if the profit and liquidity of the banks are maintained, then automatically it will lead to the maximization of the value of the shareholders. So, both the things has to be kept in the mind. One is satisfying the common shareholders needs and as well as to maximize the profitability of the respective commercial banks. So, how we can maximize the profit? So whenever you talk about the maximization of the profit, so the basic job of the bank manager is to choose the particular assets, which can provide them the maximum yield or maximum return with a minimum amount of risk.

So, we have to choose those alternatives, these alternatives can provide them the maximum output. So, in this case, but another thing you remember that whenever you talk about the maximization of the yield and according to the risk return trade off, if you want to increase the return, then the risk also has to be increased, if you take more risk than automatically your return will be increasing. So, risk and return if they are directly related, so then obviously, we have to think that how much risk we have to take by that our return objective can be fulfilled. So, to get this high return, what the banks can do?

The banks can either take more risk or they can reduce their costs. There are various sources of the costs that already we have discussed in the preceding sessions. So, if you think about the minimization of the cost, that also will lead to the maximization of the yield or the profit or you can take the higher risk by choosing those risky assets in the market for the investments, then automatically your return also can be maximized. Obviously, if you take more risk, then your net income will be highly volatile. And as well as there is a possibility that the stakeholders or the stockholders equity can be maximized or the value of the stock can be increased.

But only the value of the stock is not the only criteria. That is why we have to also make a balance between the risk return and as well as the profitability what the bank has to maintain. So, already I told you or already we have discussed the bank's profitability is always directly proportional to the riskiness of the portfolio, more the risk more the return, that concept already we know that is a fundamental rule of the risk return trade off.

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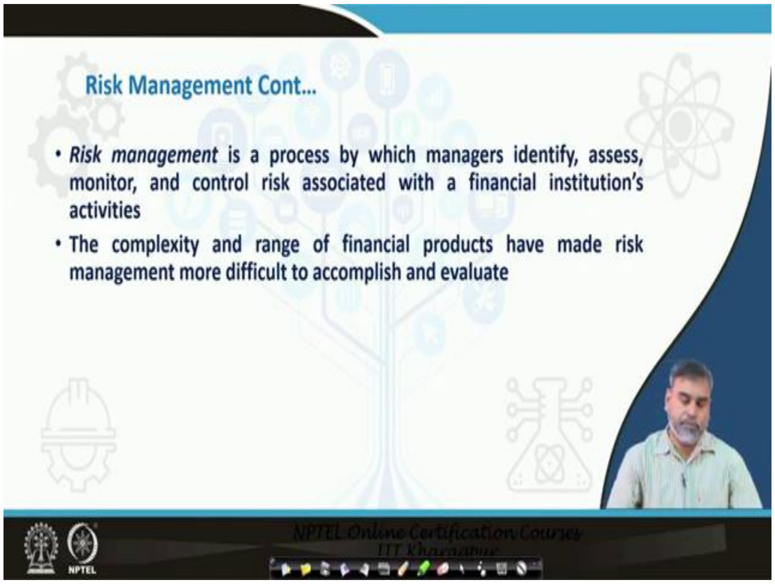

So then, if you see that, so in this context, we have to look for a particular risk management process, by that all those objectives can be fulfilled or the balance between profitability and risk, the balance between shareholders value maximization and risk, all these things can be maintained for a particular commercial bank. So, that is why every commercial bank has to go with a process.

In this context, we can define that the risk management is a process by which the managers basically identify the assets, monitor them and control the risk in such a way by that the profit of the commercial bank can be maximized. But, in this context, if you observe, there is a complex and range of the financial products which are available in the market. So, which particular product is suitable for the commercial bank and how the commercial banks managers choose that particular assets to minimize their particular risk or to maximize the return? That is a very tedious or the difficult task for any management.

So, because of that there is a structure guidelines or structure process we have to follow, we have to decide certain benchmark. By that, we are in a position to conclude that whether we are going in the right path or we are going in the wrong path. That is the basic objective of the manager to think that whatever process they are following, the process is basically an efficient process or the adequate or right approach, where the value of the commercial bank or the value of the stakeholders of the particular bank can be maximized.

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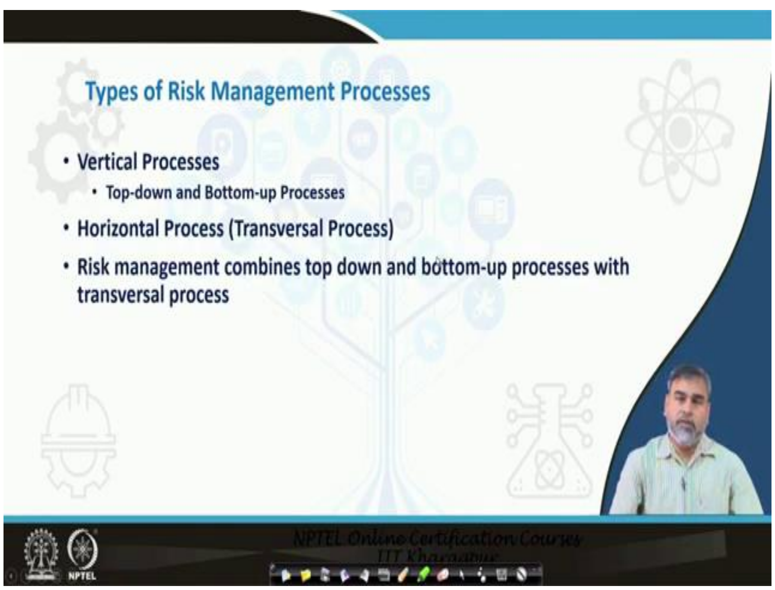

So, in this context, if you see already in the introduction, I told you, so there are two types of processes from the risk management point of view. One is your vertical process, second one is the horizontal process. But in general, those two processes do not move independently. So, whenever we talk about the risk management process as a whole, for any organization including commercial bank, the risk management process basically combines both the vertical process and the horizontal across.

The horizontal process and vertical process combined makes this risk management approach or the integrated risk management approach for the commercial bank. So, within the vertical process, we have top-down or the bottom-up and horizontal process also can be called the transversal process.

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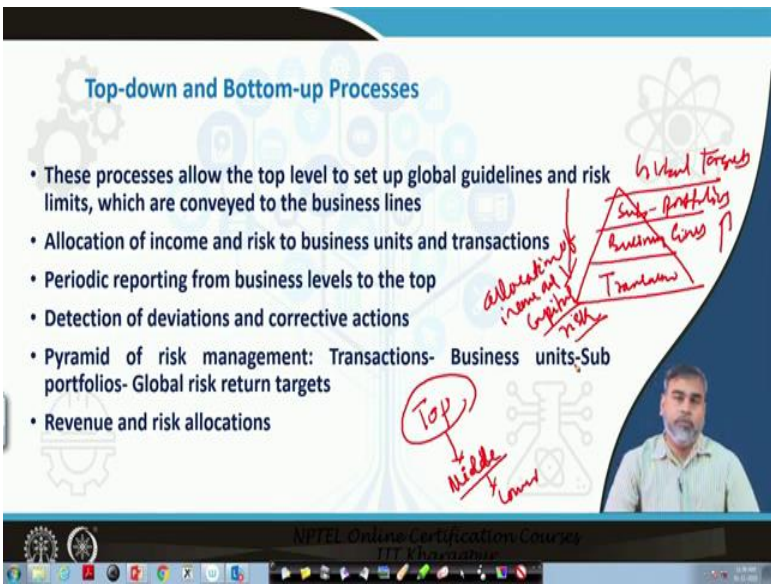

Then let us see, what do you mean by the top-down and bottom-up processes? By default, you know by the name itself, the top-down and bottom-up. If you make a organizational hierarchy, you have the top management. Then it is going towards the middle level, then the the lower level. So, in this case, whenever we are going for the top-down approach, what generally happens? The particular guidelines on the basis of the global guidelines, the top management basically fixes the limit. Because there are various lines of business, whenever there are various lines of business, so here what we are talking about?

That in the various line of business whenever we see that in this context that top management decides on the basis of the global guidelines, whatever risk limit for any kind of business has to be fixed and that message has to be provided to the other business lines. So, once this message or this particular information come to the different business lines, accordingly the allocation of the risk and the income will be made.

If you make in this sense that we are making the transactions and the transactions are lead to, are basically linked to a particular line of business. And a particular line of business basically linked to the top level or the target level in the global level, which is decided on the basis of the global guidelines. So, once this hierarchy is maintained and in the top level decides that how much risk in a particular business line can take and how much income will be generated from that particular business line. Then what will happen? That accordingly the business line work and try to reach that particular target or exceed that particular target what the top level has fixed on the basis of the guidelines.

And another job is, whenever it is bottom-up, the bottom-up approach is periodic reporting from business level to the top. In the aggregate level, every business line basically sees that how this particular operation or business is running in that particular segment and they have to report all those information’s periodically to the top level to decide whether everything is going in a systematic way or as per the desired way or there is any kind of disturbances or any kind of deviations which are happening.

So, in this context if there is a deviation, then the top management or in the top level again the corrective actions has to be taken. So, the target will be fixed, message will be conveyed to the middle management or middle level of the business line. And the business line basically report to the top that what are those operations and what are those activities are taking place and whether they are fulfilling the target or not? If they are not fulfilling the target, there is any deviation, then again we have the top management you have to think that what is the drawbacks, why there is a division and what kind of corrective actions can be taken against that?

So, that is why there is a pyramidal structure, the risk management process basically follows a pyramid kind of structure. So, there the structure is basically work like this. So, we have transactions, then we have the business lines, then we have the portfolio, sub portfolios or investment in the different portfolios. Then finally, we have the global targets. And these targets is basically nothing but the risk return target. So, this is the way basically it will move.

And otherwise, the allocation of the income or the capital will be basically goes like this, from top to bottom, this is the allocation of income and capital. So, this is the way, the both top-down and bottom-up approach in the risk management process works in a particular system, including the commercial bank. Then finally, the revenue and also they allocate the risk. The top management also allocates the risk.

So, this is the way the pyramidal structure works. The business goes from transactions to the global target they are trying to fulfill. Then the top management or the allocation of income and capitals are made from top to bottom. This is what basically the top-down and bottom-up process which works in the system.

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Then another thing also, we have to think of how we can diversify the risk? In the portfolio management, already all of you might have the idea the risk can be managed whenever it is properly diversified. Then what technique we have to adopt by that the risk diversification is properly done? And if the risk is diversified, automatically the total risk of that particular business line will be reduced. That is why that is also another part of this particular process. Then we have the quantification of risk.

In today's context, the quantification of risk is very important in the sense that in the risk models, the quantification has a very strong role, because the traditional measures of risk may not be adequate enough to capture that particular level of the risk what we are trying to measure for that particular business. Because there are many complexities which happens to a particular product and there are many alternatives, many scenarios can be created with respect to investments, with respect to other banking activities for that particular product. So, keeping those things in the mind, a right approach or right method of quantification of the risk is also a part of the risk management process and the allocation of the capital.

So, whatever way we are allocating the capital to the business line that also has to be looked into, that also has to be considered. By that on the basis of the risk and income, tradeoff of that particular business line, the capital should be allocated in a systematic or uniform way. By that on the basis of the risk, the capitals are allocated. So, the probability of failure, the probability of insolvency in the future will be relatively less. So, this is about the vertical process.

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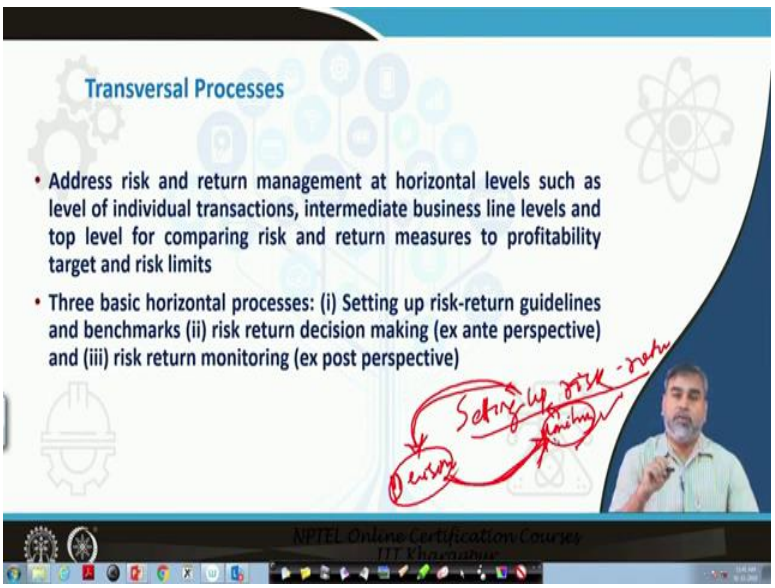

Then we have a transversal process which goes horizontally. Whenever we talk about the transversal process, so here this particular process address the risk and return management in a horizontal level like the level of individual transactions, the intermediate business, the top level business which basically comprising the risk return measures to profitability targets and the risk limits.

Previously we have fixed the risk limits and on the basis of that within that particular business line, how that particular business is running and how the risk is managed. We have to think that how it is going in that particular direction, by that the risk can be managed in a particular line of business. So, here there are the building blocks if you think that this is basically work in this way. If you see that first of all, there are three steps what we follow?

For example, we are setting up the risk return guidelines. Then from there, it will go to the decisions, from there it will go to the monitoring. Then again, if there is any kind of problem and corrective things has to be taken it will move again the setting, then again it will go to this decisions and again the decisions to monitoring. So, it will move in this particular circular way. So, first of all we set up the risk, then accordingly we will take the decisions in the market with respect to that business line.

Then once the decisions are taken, then further, we see that how the particular things are working in the market, we monitor that. Then once the monitoring is done, then again if there is any kind of issue happens to that, then again we revise these things, then again we go for the decisions, then we go for the new risk setting and the return setting. Then finally the decision making process will be changed. And finally, again it will come back to monitoring. So, this is the way, basically the transversal process works in this particular system.

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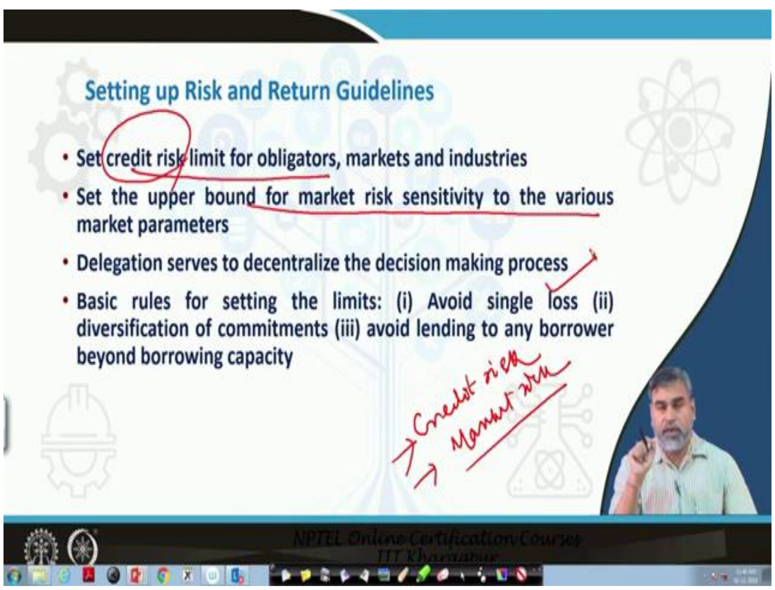

Then one by one if you see those different type of processes, one is setting of risk and return guidelines. Whenever we are setting the risk and return guidelines what basically we do? First of all you see, we have a different type of stakeholders which are existing in the market. We have the individual clients, we have the corporates, we are also linked to the market forces like the economic cycle and all. Then also we look at the industry prospects in that particular point of time. So keeping those things in the mind, we basically set the credit risk.

The credit risk for the obligators, for the markets and for the industries, keeping the conditions for all stakeholders, we set up the credit risk. Then what basically we have to do? The next step is, the upper bound for the market risk, because we are suffering from different type of risk or we are facing different type of risk in the market, so the first one because it is a credit providing agency, so we are giving importance to the credit risk.

So, we fixed the upper boundary for the credit risk, for each line of business, then we look at the market risk. The market risk is basically what? Once the economic factors basically changes, how this particular factors are affecting the business of the commercial bank? That basically is measured through the market risk. So, we set the upper bound for market risk sensitivity to various market parameters.

Then the other step is the delegations. What do you mean by the delegations? The delegation basically solves to decentralize the decision making process. You see you have the different hierarchy. So, according to the banking system, if we can delegate the power in the different levels unless the risk has not exceeded to that particular level, it will not go to the top level. So, below the top level, some other authorities will be there, some other group will be there, who can basically take the decisions or take the corrective measures that how the risk can be minimized.

Then once that particular level is exceeding, then it should go to the higher level. So, in that process, we are minimizing the time and as well as the corrective measures can be taken are very fast and as well as accurate because in the micro level, this particular management can be done in an effective way. So, there are some kind of examples if you see traditionally, whenever we talk about the limits for the different type of risk or the risk limits what we can say? So there are certain kind of objectives or certain kind of agenda always there in our mind.

Like I have avoid the single loss, that means do not provide the loan where the loss can be so huge if there is any kind of default, then the bank may not sustain or may be bank will go for the liquidation, so avoid the single loss. The diversification of commitments, whatever business you are doing, instead of focusing on one line of business, you try to diversify your business. If you are providing loans, you give the industrial loans to give you the commercial loan, give the retail loans and within the loans again you diversify on the basis of the nature of the loan, like your personal loan, house loan and etcetera.

In that sense, you are basically able to diversify your loan portfolio and as well as you also keep in the mind that the other kind of business also which are investments and all these things what the banks do. There also you can make a proper diversification, basically to minimize this one-sided risk, what may occur in the market because of some external factors. In another traditional way of doing this thing is avoid lending to any borrower beyond borrowing capacity.

That means, do not go for adverse selection, do not lose your conditions, do not lose your criteria, by that you can choose somebody where this person or this particular agent is not capable enough to repay the loan in the future. So, because of that our lending to any borrower beyond borrowing capacity, so these are the certain guidelines, whenever we fix, whenever we set up the risk in return for a particular business line in the commercial bank.

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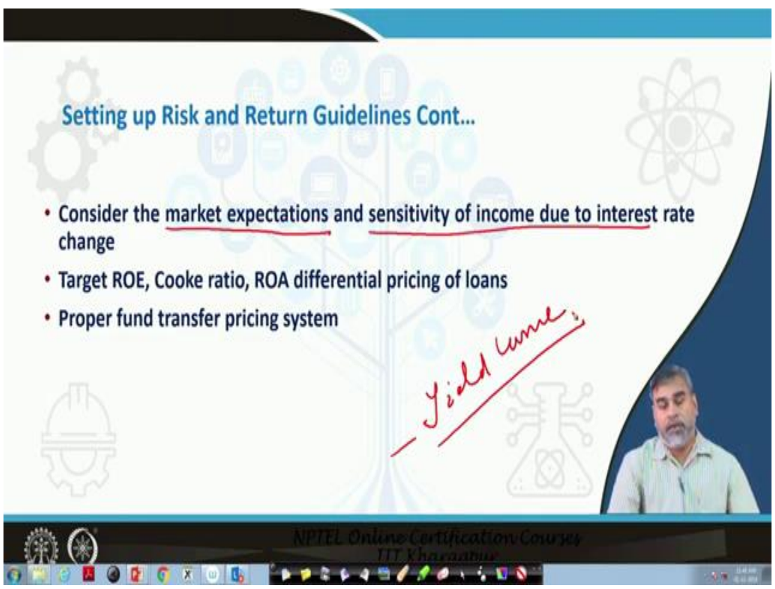

Then the other thing also we can keep in the mind, while deciding this risk limits, we also consider the market expectations. And how sensitive our income due to the interest rate changes like what is the component of percentage of income sensitive in interest rate sensitive asset and what is the percentages of non-interest sensitive asset? That also you should keep in the mind and how the market is going to be?

Particularly, you can think about the shape of the yield curve, if you can read the yield curve for example, then you can decide that whether the interest rate is going to be up or the interest rate is going to be down. Although it is a very risky kind of strategy, but still we can use these things for the market for deciding this risk return guidelines. Then what is the target you want to fix? The target is you can target to return on equity, you can target your capital ratio which is popularly known as the Cooke ratio.

You can also target your return on asset and different pricing of the loans which can maximize the profit and total value of the company or value of the bank and also the proper way of the fund transfer pricing system. Then how basically the funds can be transferred from one particular line to another line? That also can be fixed, that can be decided whenever we are setting up the risk and return for this particular business.

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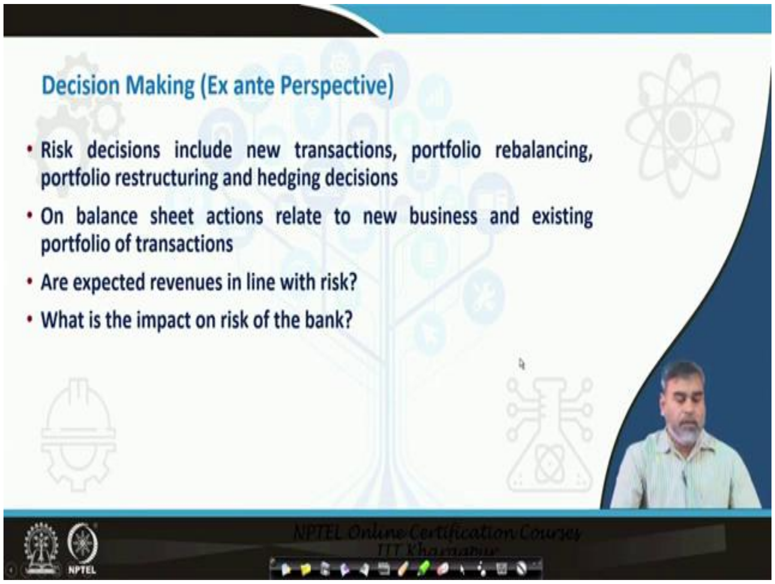

Then whenever we talk about the decision making, basically it is the Ex ante perspective means this a planning perspective. This risk decisions include where the new transactions should be made, how the portfolios can be rebalanced? How the portfolio restructuring can be made. How much positions has to be hedged and for hedging what are those instruments you have to consider? For example, whenever we are going for a new business, existing business, you can expand or you can go for starting a new business or you can also go for existing portfolio transactions whenever you are going to do.

Then these are the fundamental questions can come to our mind as expected revenues is aligned with the risk? Whenever we are going for a new business, whether whatever risk I am taking, whether the revenues what I am going to generate, whether it is really compatible, or this return is really able to adjust the risk that I am taking in that particular business. What is the impact of the risk of the total profit or the total objective of the bank?

Whatever extra risk I am taking, even if it is a one line of business, whether is there any link with this particular line of business with others, so that also we have to think of. So these are the two things, one is with specific to that return and risk in that particular business line. Another is the risk what I am taking, how it is going to integrate with the risk level of the other line of business in existing business of that particular commercial bank.

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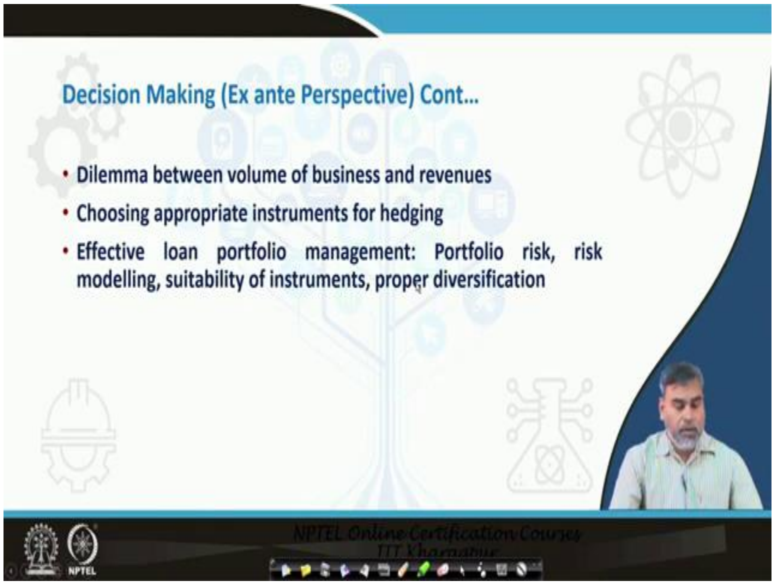

Then always the question here is: There is a dilemma between volume of business and revenues. Because always the volume of business may not lead to the revenues if your business does not do well in the future. That is why we have to think up that, what is the optimal level of volume of business we have to maintain? But the revenue has to be maximized. Choosing the appropriate instrument for hedging like derivatives instrument whenever we use that what are the effective instrument we have to consider by that the hedging is properly done.

Effective loan portfolio management like you have to consider portfolio risk, consider a proper risk modeling, adequate suitable risk modeling, which will be used for this, the suitability for the instruments. Then the proper diversification method, what method basically we have to adopt by that my total risk can be diversified?

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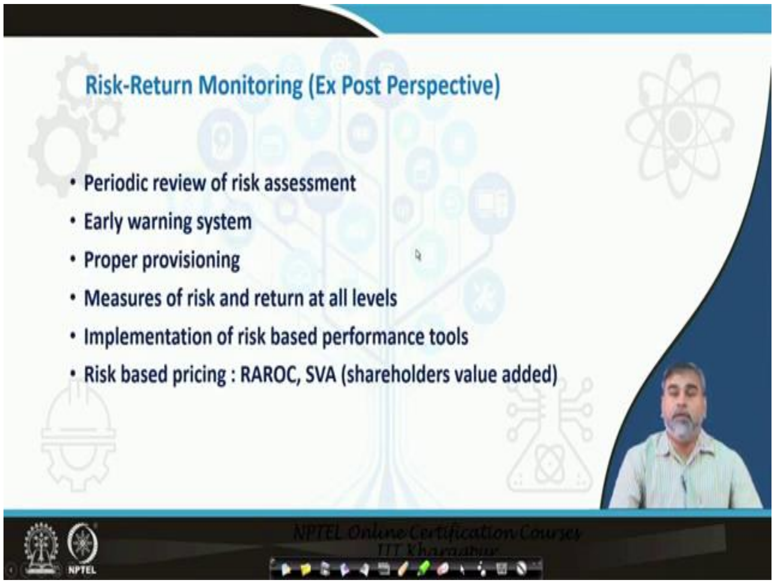

These are in the planning stage, once it is done, then you can go for the monitoring. In the monitoring stress, what we do? We go for a periodic review of the risk assessment, every periodical basis we do that. And how we can do that? We can develop an early warning system, that will discuss in the forthcoming sessions. And if you feel that there is enough loss we are going to incur in that particular business, proper provisioning has to be mad then think of the how we can measure the risk?

How to quantify the risk whether the appropriate methods are used for measuring the risk or not? Then implement the risk based performance tools like your all those performance would be risk adjusted. It should not be only consider the nominal return what I am getting, it has to be risk adjusted and that is risk adjusted thing has to be considered while deciding that whether you are performing better or not in the market.

For that we can use the shareholders' value added or economic value added that what we have discussed, risk adjusted return on capital. Those things are basically used, because those parameters are always judged on the basis of the adjustment towards the risk. Instead of the nominal measures, we can go for a risk adjustment measures. So, if this kind of process you have to follow then you can decide, you can think that whether really my risk management process is working well or not.

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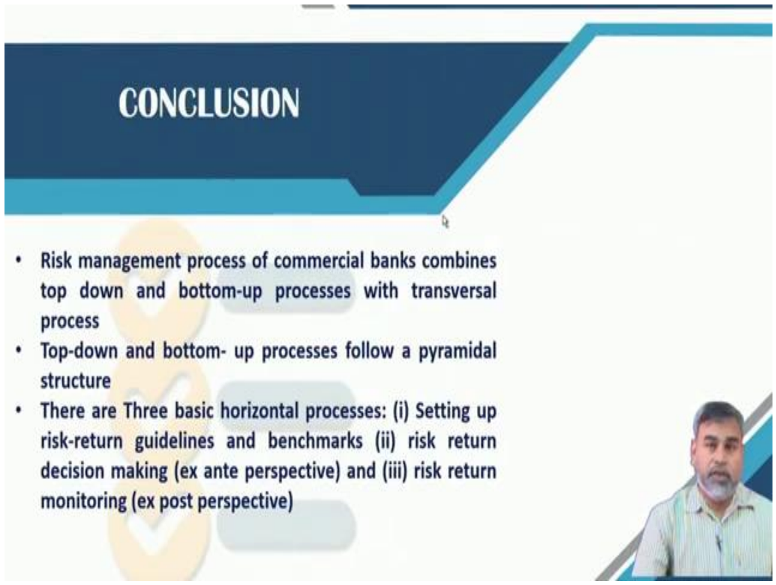

So, then, if you see these are the major things what we have discussed in this particular session; commercial bank or the risk management process of the commercial bank combines both top-down and bottom-up process with the transversal process. Both horizontal and vertical process works that means it is an integrated approach the commercial bank follows. And top-down and bottom-up processes follow a pyramidal structure, where it goes from we can say transactions to the target level or the global target level whatever we have fixed.

So, there are three basic horizontal processes like setting of the risk return guideline and the benchmark we have to consider, the risk return decision making and the risk return monitoring. So, this gives your idea of the complete risk management process of a particular bank and accordingly we have to decide that how basically, we can manage our risk or we can minimize the risk to maximize our return and as well as the profitability and liquidity.

So, in the coming sessions, we will be discussing about the types of risk what the commercial banks face. And how basically we can measure those risk or what are the different sources of risk, always we observed whenever the commercial banks basically faces this kind of risk in the financial system.

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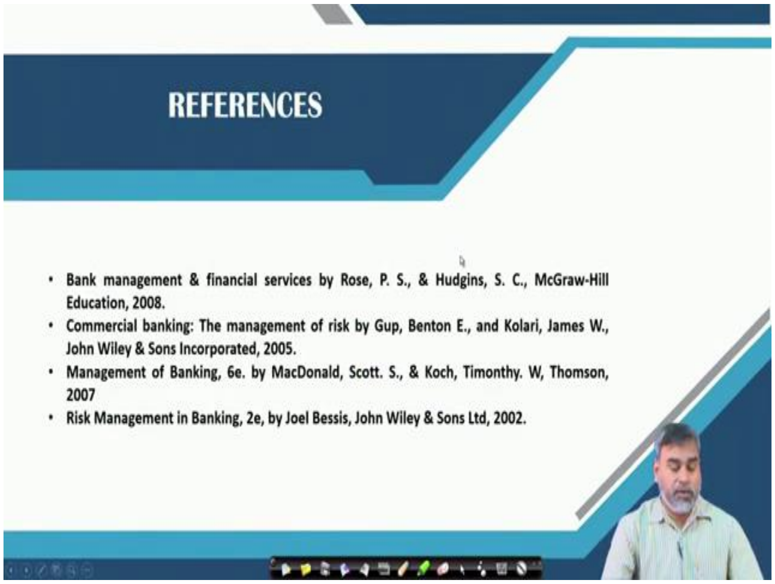

So, these are the references what we can go through for this particular session. And further detail analysis we can go through this. Thank you.