Management of Commercial Banking
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Lecture 19
Commercial Bank Risk IV

Good morning! In the previous class we have discussed about certain type of risks what the commercials banks always face and most importantly we discussed about the credit risk. Then we discussed about the market risk and to some extend also we discussed about the operational risk.

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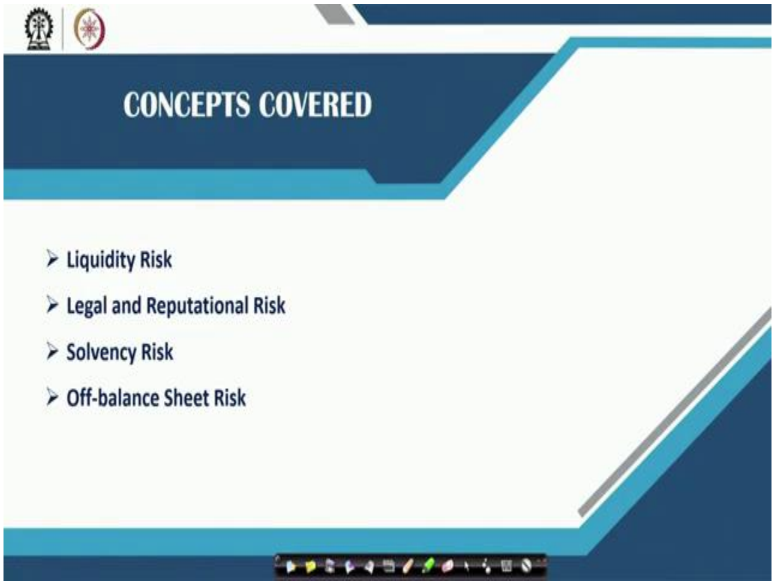

CONCEPTS COVERED

- Liquidity Risk
- Legal and Reputational Risk
- Solvency Risk
- Off-balance Sheet Risk

Apart from this the commercial bank also faces the other type of risk because all of you know that the basic objective of the commercial bank is to manage or to maintain both profitability and liquidity. So, that is why liquidity is also very important from the commercial banking point of view. Because the liquidity basically is very much inhabitable to fulfill the requirements of the depositors and as well as the day to day requirements of the commercial banks.

So, keeping that thing in the mind particularly in the Basel III, the importance of liquidity risk has been given lot of attention. So, in this context in the today's session we will be discussing more about what exactly the liquidity risk is, what are those different type of liquidity risk which exist in the financial system.

Then apart from this we also discuss certain issues related to the legal and reputational risk of the commercial bank and finally the overall risk of the commercial bank which can be judged by measuring the solvency, that also we will be discussing in today's session and finally there is, what are those different sources of off-balance sheet risk. That also we will discuss, because in today's context the importance of non interest income has also increased. And this importance of the non interest income has increased because the activity is related to off-balance sheet items also have increased in a larger extent.

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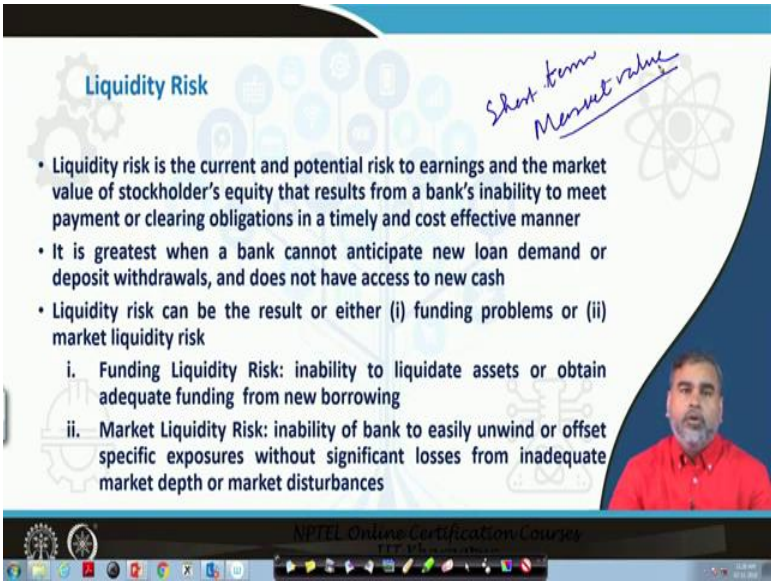

Liquidity Risk

Short term
Market value

- Liquidity risk is the current and potential risk to earnings and the market value of stockholder's equity that results from a bank's inability to meet payment or clearing obligations in a timely and cost effective manner
- It is greatest when a bank cannot anticipate new loan demand or deposit withdrawals, and does not have access to new cash
- Liquidity risk can be the result or either (i) funding problems or (ii) market liquidity risk
    i. Funding Liquidity Risk: inability to liquidate assets or obtain adequate funding from new borrowing
    ii. Market Liquidity Risk: inability of bank to easily unwind or offset specific exposures without significant losses from inadequate market depth or market disturbances

So, then first let us see that what exactly the liquidity risk means and what are those different type of liquidity risk exist is the market. So, whenever we talk about the liquidity risk, the liquidity risk is nothing but it is the current and potential risk to the earnings and the market value of the stockholder's equity, which is basically results due to the bank's inability to meet the payment or clear the obligations in a timely basis and as well as in a cost effective manner.

We are trying to discuss this things how is it basically matters? First of all, already again and again we are telling the liquidity is required because to fulfill the requirements of the depositors. Generally the deposits in the bank are very short term. These are basically short term deposits, and it is not clear when the particular customer or the depositor is trying to withdraw that money.

So, at any point of time if the depositor is going and try to withdraw the money, if the bank is not able to fulfill their requirements then that basically always lead to the less confidence on that particular bank and the depositors will be afraid of keeping the money in that particular commercial bank. Then automatically the balance sheet of the commercial bank gets affected and finally the total profit of the bank gets affected.

And another one is how it is basically affecting the equity? Because once the profit gets affected obviously the book value of equity gets affected. And as well as it also has the implication on the market value of the equity, so what exactly the market value of equity. Because the market value is not calculated on the basis of the accounting data whatever the commercial banks have. The market value of the equity also reflects the other type of informations which are existing in the market.

So, whenever we talk about the other informations which are existing in the market, in that particular context if you see that because of the lack of confidence of the investor and as well as the depositors on that particular bank, the availability of the resources to that particular bank may decline. Though, which has also the larger impact on the cash flow or the internal cash flow of the particular bank. So, if the internal cash flow gets affected then automatically the value of that particular equity gets affected and the demand and supply forces which are affecting the equity of that particular commercial bank that get disturbed.

So, because of that any kind of problem with respect to the liquidity in the commercial bank will have a larger implications, will have a larger impact on both, the profitability in terms of the accounting measures and as well as the market value measures whatever the commercial banks have in that particular point of time. So, therefore it is very important from the banking point of view to maintain the particular level of liquidity which can satisfy all the requirements of the customers and as well as the other aspects of the bank.

Particularly the liquidity risk will be more when the bank cannot anticipate the loan demand or the deposit withdrawals or that does not have access to the new cash. So, how the bank basically maintains that liquidity? Already again and again we are telling the banks only resources is the deposits. So, whenever the bank has the deposits, from that deposits bank has to provide the loan and as well as they have to keep certain money with them to fulfill the requirements of the customers or the depositors.

So generally what happens, sometimes it may not be possible for the bank to accurately predict that how much demand will be there in terms of the loans or the advances. So, if the loans and the advances demand is not known, for example, all of sudden because of some external factors the demand for loans has increased, if the demand for loans has increased then automatically the availability of the resources, the availability of the money to the commercial bank declines.

If the availability of the money declines then obviously it will have an adverse impact on the liquidity because at that particular point of time if any kind of depositor needs the money from the commercial bank or they want to withdraw the money from the commercial bank, commercial bank may not have enough money to fulfill their requirements. Another one is the deposit withdrawals that is also very difficult to predict.

Although the banks go for a kind of forecasted analysis by using historical data, but still because of there is some kind of situations arises where the depositors may withdraw the money at any point of time. So, both the prediction of the loan demand and as well as the timing of the withdrawal of the particular money what the depositors have with the commercial bank it is not known. Then what happens because of this liquidity gets affected.

Then another thing is that another reason also the liquidity gets affected if the bank is not having that kind of assets which can be converted into the cash so easily. Generally, there are certain short term government securities, there are certain assets from the money market for the commercial banks holds. And those short term securities which basically commercial banks are holding from the government side, and as well as from the money market side, that can be basically redeemed in a short period of time to maintain their liquidity.

But if there is any kind of condition where enough access is not there to that particular instrument then also the commercials banks liquidity gets affected. So, these are the major sources of liquidity risks for the commercial banks always face. So, whenever we talk about the liquidity risk, it can be arised due to the funding problem or it can be also due to the market problem. So, that is why we call it the funding liquidity and we have another thing is the market liquidity. So, whenever we talk about the funding liquidity risk, what it exactly means?

It basically means that, it is the inability to liquidate the assets or obtain the adequate funding from the new borrowing. Just now we are talking about that whenever the banks basically have not enough money to fulfill the requirement of the depositors then at that particular point of time the bank can basically borrow the short term borrowings from the market either from the money market or the call money market, or they can borrow from the central bank to fulfill that particular gap. But if the banks at that particular point of time are unable to liquidate those assets whatever they are holding from this particular two different sources then there is a problem of the funding liquidity.

So, then they risk of the liquidity basically funding liquidity will increase. Another one is the market liquidity. The market liquidity is; it is the inability of the bank to easily unwind or offset the specific exposure without significant losses from adequate market depth or the market disturbances. That means what happens that whatever risk expose of the banks have, in that particular point of time, if the bank wants to basically maintain the liquidity for certain particular reasons then if the market is really conducive to observe that particular disturbances at particular changes what the commercial bank want.

Then we can say that there is enough liquidity in the market so the bank is able to raise the money whenever they want, so because of that their other positions do not get disturbed. Keeping other positions interact if the bank is able to fulfill the requirements of the liquidity, both from the depositors point of view and as well as the other requirements point of view, then we can say that the market is more liquid because of that the bank is able to generate the money in the significant way or in a better way.

But it is not basically the case, always the banks are able to raise the money because of certain other external reasons and if that kind of situation arises, in that particular point of time we can say that there is a problem in terms of liquidity in the market. Particularly that thing happens whenever the interest rate in the markets is quite high. If there is a high interest rate then floating or the availability of the resources in the market is relatively less. So, in that particular point of time the banks also face the problem.

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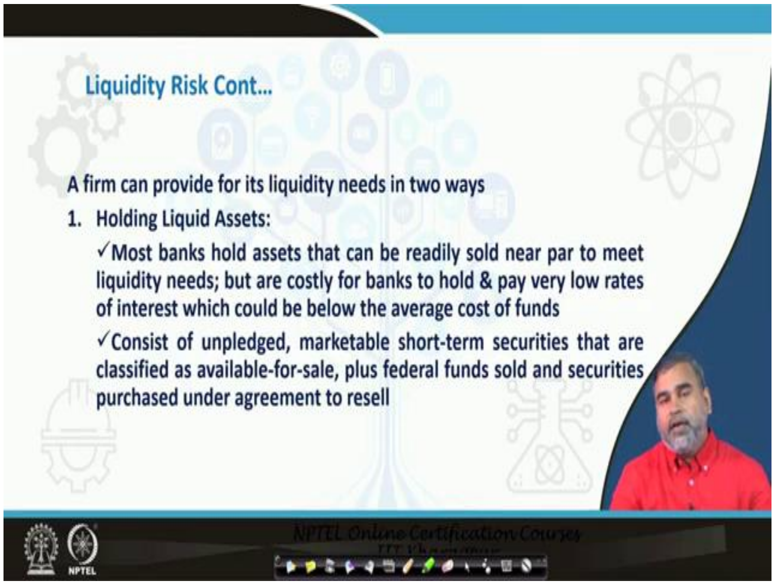

Liquidity Risk Cont...

A firm can provide for its liquidity needs in two ways

1. Holding Liquid Assets:
   - ✓Most banks hold assets that can be readily sold near par to meet liquidity needs; but are costly for banks to hold & pay very low rates of interest which could be below the average cost of funds
   - ✓Consist of unpledged, marketable short-term securities that are classified as available-for-sale, plus federal funds sold and securities purchased under agreement to resell

Then we have another thing, how basically bank resolve that issue. So, whenever bank basically wants to resolve that issue or bank is really able to provide this liquidity needs so it can be basically provided into two ways, either they can hold the new assets and whenever they are talking about the holding the new assets, that basically what does it mean? It means that the banks basically hold the assets that can be readily sold near par to meet the liquidity needs, but are costly for the banks to hold and pay very few rates of interest which could be below the average cost of the funds.

What does it basically mean? It means that the banks are holding the liquid assets and the banks are able to sell that particular asset in the market, but sometimes what happens that even if they are holding those assets it is not very easy to sell that particular asset at par in the market. Even if they are going to sell it, if really the interest rate is relatively higher, then the price of that particular asset goes down. So, if the price of the asset goes down then the cost whatever they have incurred to invest in that particular asset that can be more than the particular return or the liquid cash what they are going to get it from that particular selling process.

So, because of that sometimes also that creates the problem or the problem may not be raised because of that and another one is that, if the banks are basically holding more unplaced marketable short term securities that are classified as available for sale, plus the government funds sold and the securities purchased under agreement to resell, repurchase agreement, the repo agreements. So, if they are also holding these kind of assets, liquid assets they can also sell those assets in the market in a short span of time and they can convert that particular money into the liquid cash to fulfill that particular liquidity gap what basically they are facing. So, holding the liquid assets is one of the ways through which the liquidity risk can be managed.

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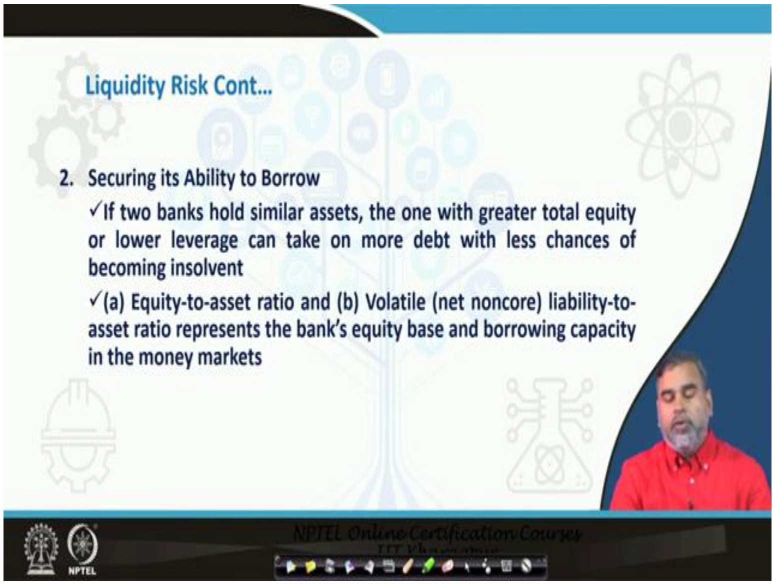

Liquidity Risk Cont…

2. Securing its Ability to Borrow
   - ✓If two banks hold similar assets, the one with greater total equity or lower leverage can take on more debt with less chances of becoming insolvent
   - ✓(a) Equity-to-asset ratio and (b) Volatile (net noncore) liability-to-asset ratio represents the bank's equity base and borrowing capacity in the money markets

And second one is securing its ability to borrow, for example, if the two banks have similar assets and one with greater total equity or the lower leverage, so obviously the particular one with greater total equity or lower leverage can take more debt with less chances of becoming insolvent. The reason is what? Whenever we talk about the condition of the bank to borrow, so whenever the lender provides the money to the bank they also assist this financial condition of that particular organization including the commercial bank.

If really the particular bank is less leveret that means their obligations are relatively less, then they can raise more debt from the market and there is less chance of the insolvency. And another condition is, if you are believing in the concept of optimal leverage ratio for any organization so then if already the equity is basically low then the debt component also is low already. So, that means the fixed obligations of the banks are relatively less, that also sometimes helps the bank to borrow in the future or there is a high chances that the bank is able to borrow in the future because already the debt component of that particular bank is relatively less.

So, how basically we can think of this things, how we can measure this thing? It can be measured through equity to total asset ratio and the volatile liability to asset ratio which represents the bank’s equity base and borrowing capacity in the money markets. For example, the liability to asset ratio is relatively low that means for that bank it is easy to borrow from the money market, than the bank’s who have already higher liability. So, because of that there are two things basically or two process, or two methods the bank can always adopt, one is they can hold more liquid assets or they can basically sell those particular assets in the market in a better way and otherwise this would have the ability to secure more borrowings.

So, that securing more borrowings basically can happen whenever they have already less obligations or less liability with them. So then the lender will be ready to provide them this particular loan and as well as the banks are able to convince them that this particular bank is not going to be insolvent. So, because of that raising the money from the market is relatively easy. So, these are basically two methods through which the liquidity can be managed or liquidity risk can be reduced.

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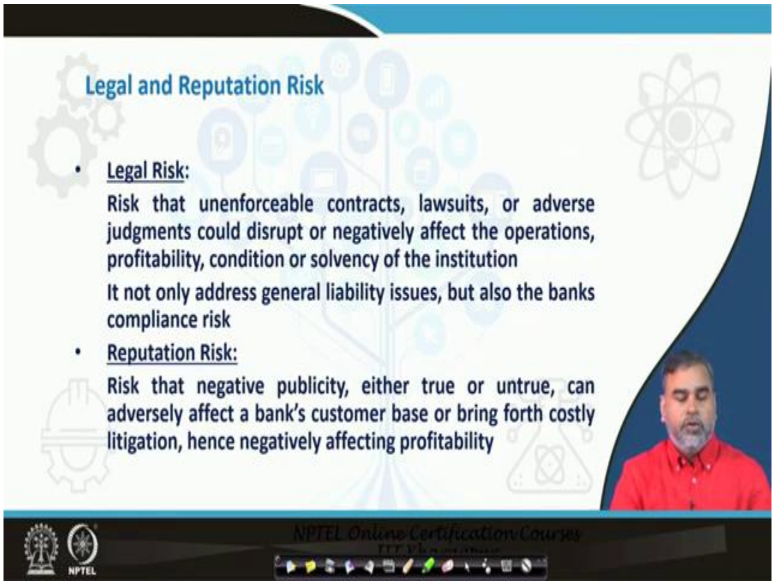

Legal and Reputation Risk

- Legal Risk:
  Risk that unenforceable contracts, lawsuits, or adverse judgments could disrupt or negatively affect the operations, profitability, condition or solvency of the institution
  It not only address general liability issues, but also the banks compliance risk
- Reputation Risk:
  Risk that negative publicity, either true or untrue, can adversely affect a bank’s customer base or bring forth costly litigation, hence negatively affecting profitability

So, then we have other two types of risk, one is your legal and reputational risk. And nowadays you might have observed there are many cases, there are many unenforceable contracts, there are many kind of dispute, which are basically happening with respect to the banking. Resources may be many, resources may be because of some ethical issues or resources may be because of some kind of frauds, which have taken place in the bank or this may be because of not basically following this proper guidelines of the regulator or whatever reason it may be.

Now, there are many kind of legal or court cases which are happening for this banks and as well as the other financial institutions, and for that there is a huge expenditure, there is huge cost the banks basically bear whenever any kind of legal disputes happens to that particular bank. So, whenever the legal disputes are there then obviously the bank will not be in a position to keeping that kind of profitability with them and as well as they cannot maintain their stability for a longer period of time.

So, then the legal risk, if the legal risk is higher it well have a very adverse impact on the bank because the bank incur a huge cost for that particular legal cases and the court cases for the particular bank is facing in that particular point of time. And whenever you talk about the legal risk, it not only address the general liability issue, it also banks the compliance risk. Compliance risk in the sense, whatever liability the bank has already the liability may go up that is number 1, and number 2 the banks basically may not be able to fulfill the regulatory norms or they may not fulfill this actual compliance what they have to make with respect to different financial and non financial parameters.

So, keeping that thing in the mind we can say that the legal risk is a very important risk in today’s context, it incurs the huge cost whenever any kind of averse situation arises with respect to that particular banking in terms of the legal disputes, court cases and all these things. So, that is why legal risks should be given much attention in today’s context. Then we have another thing the reputation risk, what basically we call it, may be it is because of the rumor, or because of anything.

But still sometimes the bank basically faces the negative kind of image may be due to certain factors which are happening to the bank or which may not be happening to the bank which is untrue but still it is popularized in the market because of certain kind of rumors. So, here it will have a negative publicity, it measures the negative publicity, either true or untrue already we said that it may be a rumor also or it may be the actual also. The facts may be true, the facts may be untrue.

So, that basically what happens that once the particular bank is facing certain kind of reputational risk then it will reduce the bank's customer base whether the customers will be reluctant to put the money in the bank because bank has already lost the reputation in the market as particular financial institution. So, then what happens that, that will basically reduce the availability of the resources for that particular bank and as well as the stock value and other value also gets affected because the bank has already lost the reputation.

So, keeping the reputation intact or increasing the reputation of the commercial bank as well as the other financial institutions are quite important in the sense that will have a spiral impact on various financial performance of the commercial bank. So because of that the reputation risk also we have to consider, we have to think that whether the banks are maintaining their reputation over the period of time or there is certain kind of problem which are happening with respect to that reputation of the commercial bank. So, that is why this is another type of risk always we can consider whenever we talk about the commercial bank or any other financial institution in a particular financial system.

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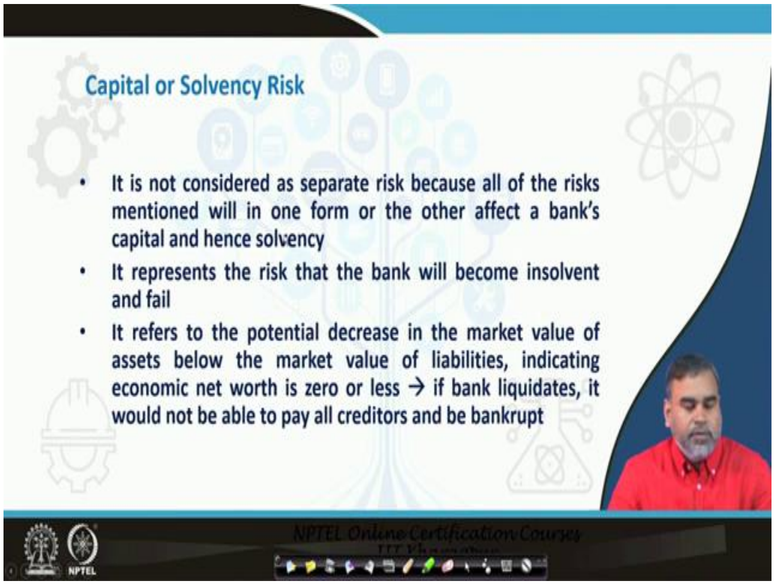

Capital or Solvency Risk

- It is not considered as separate risk because all of the risks mentioned will in one form or the other affect a bank's capital and hence solvency
- It represents the risk that the bank will become insolvent and fail
- It refers to the potential decrease in the market value of assets below the market value of liabilities, indicating economic net worth is zero or less → if bank liquidates, it would not be able to pay all creditors and be bankrupt

Then we have the capital or solvency risk, generally you will find that it is not considered as a separate risk for any textbook or any kind of ways the capital or solvency risk is not considered for the commercial banks. Because basically if you minutely observe all the risk which are basically we are talking about, one form or other form this affects the bank's capital and as well as the solvency. There is a clear linkage between the risk and capital, so if any kind of risk factor changes in the commercial bank, it will have a larger impact on the capital base. If the capital base gets affected, because it affects the sentiment of the equity investors or the stock investors.

If stock investors sentiment in all these things gets affected then the demand for that particular stock is also getting affected. If the demand for that stock gets affected then what will happen? There is a probability the bank can go insolvent. The reason is basically what? The bank will not have enough money and as well as the capital base will not be that much stronger to compensate the loses what the bank is going to make if there is any kind of micro economic, or the other fundamentals which have changed over the period of time within that particular system then what happens that the capital risk or job, or the bank is going towards insolvency.

The bank is going towards the liquidation and as well as solvent. So, in that particular case whenever we are talking about the solvency, we have to see that whether really the bank is good enough to maintain their profitability and to maintain this as maximization or not. So, if the particular bank is solvent it is basically solvency is not the problem for them. Then what happens, you can consider those banks are stable and for that stability we have to aggregate all type of risk what the particular commercial bank face.

So, because of that in today’s context we are more inclined towards integrated risk management instead of going towards the individual risk what the commercial banks always face. So, in general, if you want to define this solvency risk, it basically a potential, it refers to the potential decrease in the market value of the assets below the market value of the liabilities indicating the economic net worth which is 0. Because already you know that the total value of equity of the net worth of the company is nothing but the total assets minus total equity.

So, in that particular context, because of the risk which is happening may be source of risk is external but if the bank basically always expose to that particular external environment then automatically the solvency risk becomes a factor for maintaining the profitability or the stability. So, here what basically it happens that if the potential decrease in the market value of assets below the market value of liabilities which indicates that economic net worth is 0.

So, if the bank liquidates it would not be able to pay the creditors and be bankrupt. So, if the bank liquidates at any point of time then it is not possible for the bank or bank will not be able to pay all kinds of assets or all kind of money whatever they are holding from the different kind of sources including the creditors. So, once they are not fulfilling or they are not able to pay the requirements of the creditors then what happens?

There is a probability that bank can go for bankruptcy and finally the bank can be liquidated. So, because of that in an integrated manner we have to consider that what kind of capital risk the bank is having, whether the whatever risks basically the commercial bank is facing that is really, how much basically, what is the degree of impact on those kind of factors on the bank capital. So, from there we can consider that whether the bank is stable or not.

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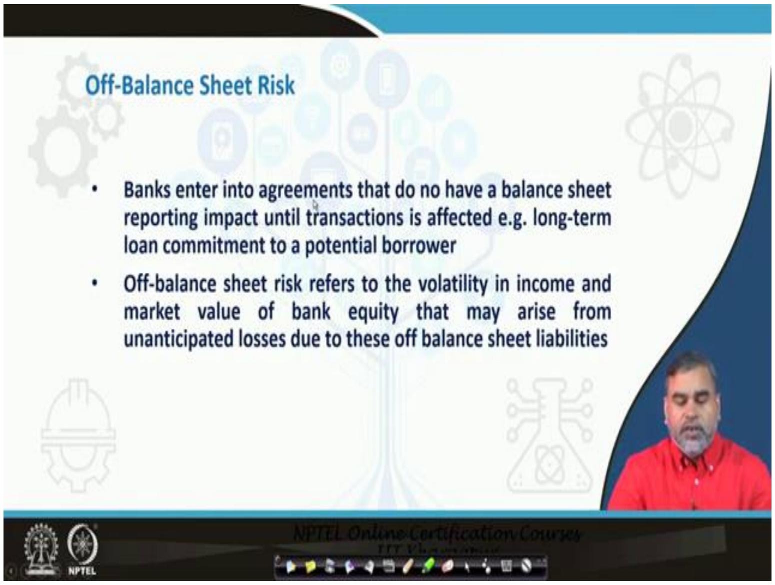

Off-Balance Sheet Risk

- Banks enter into agreements that do no have a balance sheet reporting impact until transactions is affected e.g. long-term loan commitment to a potential borrower
- Off-balance sheet risk refers to the volatility in income and market value of bank equity that may arise from unanticipated losses due to these off balance sheet liabilities

And the next one is basically off balance sheet risk, because already again and again we are discussing in today’s context the importance of the non interest income has gone up. So, whenever we talk about the non interest income, mostly we are concentrating on the derivatives instruments, we are concentrating on the commitments, vertical loan guarantees, then letter of credit, so those kind of services what the banks provide which are basically not the compressive traditional services what the bank always use like depositor lending activities.

So in that particular context whenever we talk about those kind off balance sheet items, which includes this kind of factors so in that particular point of time, if there is something wrong with respect to that then the bank also faces a huge risk in terms of instability and as well as the profitability. So, if you formally define it, the off balance sheet risk basically refers to the volatility income and the market value of the bank equity which or that may arise from the unanticipated losses due to the off balance sheet activities.

Sometimes even if you have many off balance sheets activities so if your business on the off balance sheet activities does not go well then there is a problem of the profitability for that particular commercial bank. So, because of that we always give much emphasis in the balance sheet items. In today's context because those items are relatively difficult to analyze in comparison to other balance sheet items which are existing for the commercial banks balance sheets or the financial statements.

So, these are basically the off balance sheet risks and here what happens that, the off balance sheets activities will have larger impact on the share holders value or the equity value gets affected due to the higher balance sheet risk for the commercial bank because the investors always go for high premium and obviously if the premium is increasing, then the cost of equity for that particular bank will increase.

If the cost of equity for their particular bank will increase, then it will have obviously an adverse impact on profitability in other market indicators which exist in the system. So, this is basically the overview of the off balance sheet items always what we use and how the banks are basically exposed to the risks whenever there is a problem of the off balance sheet activities for that particular commercial bank.

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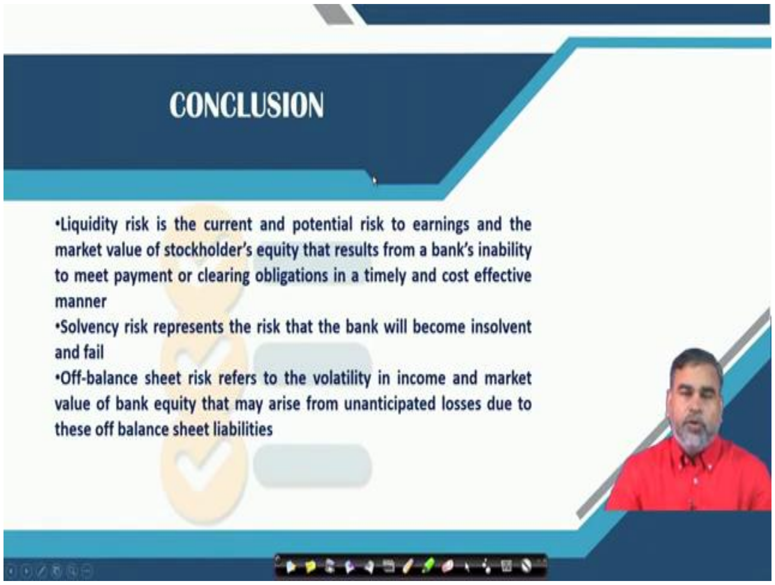

CONCLUSION

- •Liquidity risk is the current and potential risk to earnings and the market value of stockholder's equity that results from a bank's inability to meet payment or clearing obligations in a timely and cost effective manner
- •Solvency risk represents the risk that the bank will become insolvent and fail
- •Off-balance sheet risk refers to the volatility in income and market value of bank equity that may arise from unanticipated losses due to these off balance sheet liabilities

So, in the conclusion if you see what we have discussed today, we have discussed that the liquidity risk is the nothing but the current and potential risk to earnings, market value of equity which basically results from the banks inability to meet the payment or the clearing the obligations in the timely and cost effective manner. Then you have banks also face the risk like legal risk and the reputational risk and directly or indirectly they will also or they also have the impact on the net profit and as well as, we can say that the stability of the banks.

Then the off balance sheet which basically refers to the volatility of the income and market value of equity which basically arises due to the expected losses, unanticipated losses, unexpected losses, and any kind of activities which is happening with respect to the banking like use of the derivatives instrument, to use in the real estate, in all kinds of thing that also sometimes not very conducive or profitable for the commercial banks through that they may not be able to manage their total profitability or the stability.

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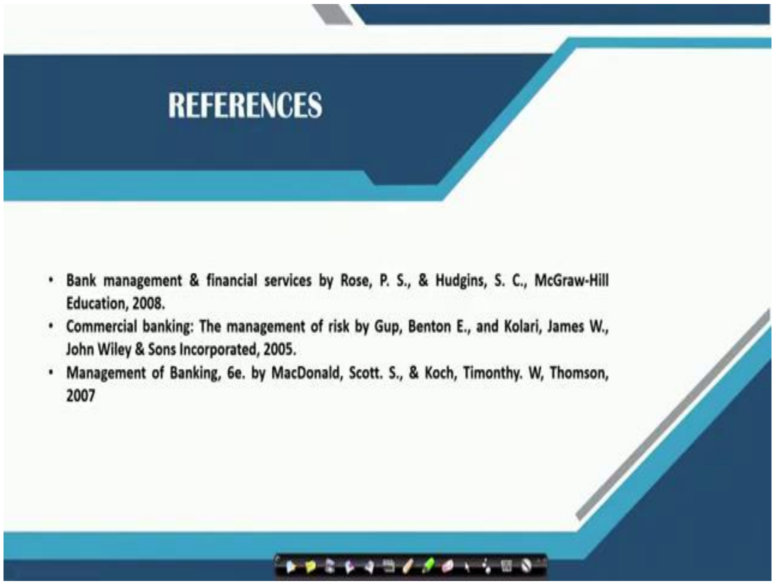

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So, these are the references what you can go through for the detailed analysis of this particular topic. And form the next class we will start the discussing about in the practical context how the interested risk is managed, what are those different ways the commercial banks try to manage the interested risks and what are those traditional and modern methods are available for that, thank you.