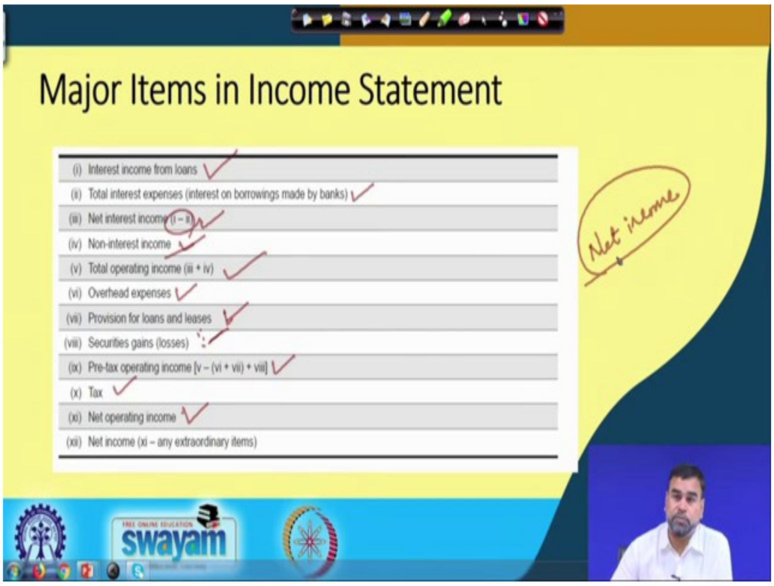
Financial Institutions and Markets
Prof. Jitendra Mahakud
Department of Humanities and Social Sciences
Indian Institute of Technology, Kharagpur

Lecture – 23
Commercial Bank Performance

In the previous class we discussed about the different financial statements. And what we have seen the measure whenever you discuss about the financial statements what we have seen; that the deposit is the major liability, and the investment, and the bank credit, or bank loans are the major assets for the commercial bank.

And we discussed certain issues related to the approaches to the bank lending and as well as the factors which are affecting the deposit base. So, in this particular session will be discussing about how the commercial bank performance is measured. And what are those indicators we use to measure the performance.

(Refer Slide Time: 00:59)



So, the performance measures are mostly based upon the income statement. So, if you minutely observe this particular table. So, there are a different major items which has been highlighted here. You have the interest income from the loan, then interest expenses, because the bank also borrow from another bank or from RBI they pay the interest.

So, your net interest income is nothing, but your from interest income minus interest expenses. Then you have some non interest income you are also providing certain services, you are also investing in the market. You have certain noninterest income you can generate out of this. Then your total operating income is equal to your net interest income and then noninterest income; that will give you the operating income.

There are some expenses overhead expenses day to day expenses the commercial banks do. They you also give some provisions for loans and leases that already we discussed in the previous class. And you can also gain or loss in the securities whatever money or whatever stocks and all this things you have invested.

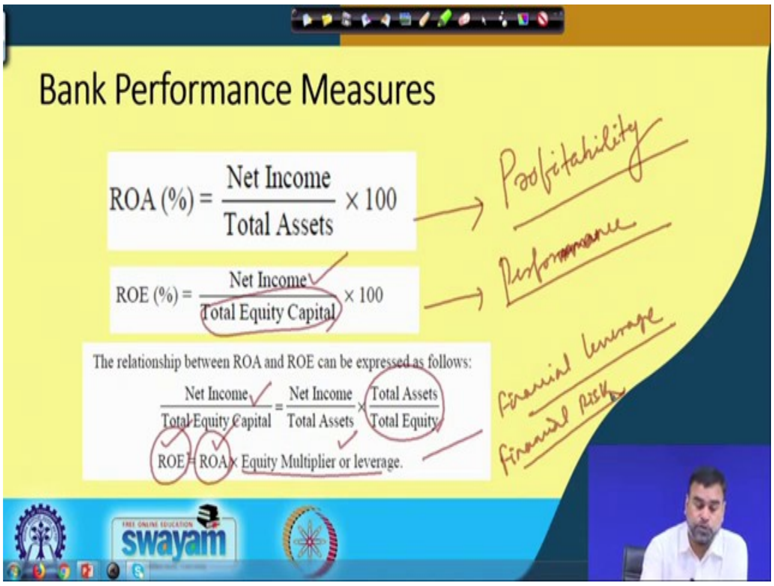
Another a pretax operating income if you want to calculate; that is the total operating income minus your overhead expenses minus the provisions for the loss and losses. And if there is a gain in terms of the securities whatever you have invested that can be added here. So, that is basically of pretax operating income then finally, you can pay the tax.

Then the net operating income is nothing, but the pretax operating income minus tax. Then finally, your net income if you are any kind of extraordinary expenses and all these things if you have then you can deduct that one. And finally, your net income of the commercial bank can be measured. So, this particular table is trying to show that how the net income of the commercial bank is measured.

Because net income is a measure which is mostly used to measure; any kind of ratios of, or any kind of performance measure, of any kind of financial organization, or any other organization. So, including bank you are much more concerned about how much net income the commercial bank can generate.

And what are the different sources the income is coming and what are the different avenues through which the expenditures are made. So, after this we can move into that different ratios; what the commercial banks use to measure their performance.

(Refer Slide Time: 03:32)



Like any other companies the first and foremost measure is the return on assets. The return on asset means how much, how the particular company is able to generate the income out of the assets whatever they have. So, that is why it is nothing, but the

$\frac{Net\ Income}{Total\ Assets} \times 100$. And if you want to convert in terms of percentage then it is basically multiplied by the 100.

So, one of the most popular used measure for profitability that is your ROE so this is a profitability measure, this is a profitability of measure. So, anytime whenever we use any kind of proxy for the profitability always we try to measure it through the ROA the first foremost important measure or the popular measure for profitability that is the return on assets.

Then you have the ROE which is return on equity. Equity holders the particular people who invest in that particular bank stocks they are much more concerned about the return on equity. Now, what is return on equity? So, the same thing this is your net income upon the total equity capital whatever the company has. So, in the monetary term whatever equity value the company has total amount of equity net income upon the total.

How that means, how this particular net income is distributed among the equity holder that basically is measured through the return on equity. So, net income upon the total equity capital that will give you the return on equity and multiplied by 100 that will give you the percentage. So, that is also one of the most important performance measure of the bank.

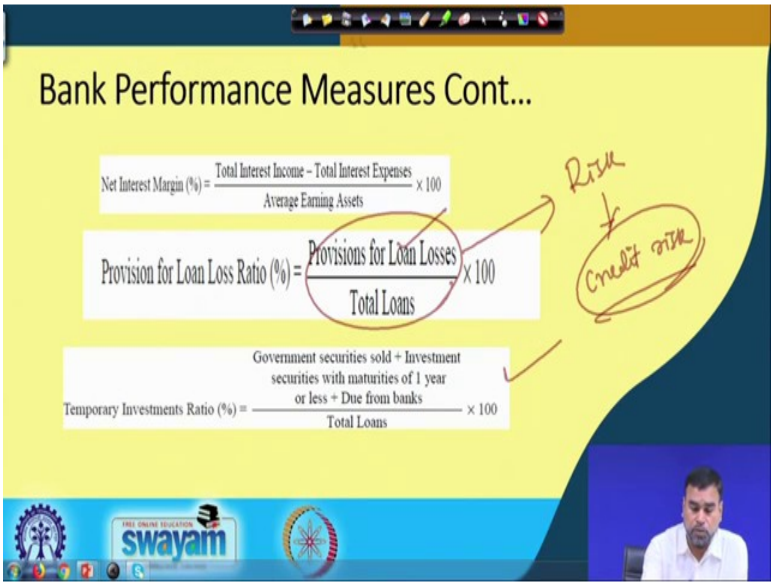
So here what I am trying to say that ROA and ROE: Return on Asset and Return on Equity. These are quite used measure whenever you talk about the performance of the bank or any kind of organization. When there is a relationship between ROA and ROE also in our term we call it basically the due point analysis.

So, here what basically we were talking about this relationship between ROA and ROE how it can be measured. If you see here the net income upon the total equity capital it can be further also expanded. But here I just wanted to show you that how this two ratios are related. If you see that net income upon total equity capital which is your ROE is nothing, but net income by total assets multiplied by total assets by total equity.

So, total asset by total equity is nothing, but the financial leverage. So, if you have the ROA which is available to you and you have ROE to you then you can find out your leverage or the financial leverage of the organization or particular bank. So, if you have the financial leverage and ROE you can find out ROA. So, there is some kind of inter linkage which exist between the different two ratios like ROE and ROA.

Who are the most popular measures for the performance for any kind of organization. Then what is the leverages? Leverage basically shows the finance risk, we discussed about the financial risk already in the beginning of the sessions, the leverage is basically measures the financial risk of the particular organization. So, the multiplier or the leverage equity multiplier, the leverage multiplied by ROE that can give you the ROA. So, that is the relationship between ROA and ROE in the particular system.

(Refer Slide Time: 07:26)



Then we can move into another measures for the banking prospective the one of the most important measure of performance is the net interest margin. Now, what is this net interest margin? It is the already we know that what do you mean by the

$$\text{Net Interest Margin (\%)} = \frac{\text{Total Interest Income} - \text{Total Interest Expenses}}{\text{Average Earning Assets}} \times 100$$

that can give you the net interest margin.

Or net interest income is nothing but total interest income minus total interest expenses that we have seen in the beginning of the discussion. So, net interest margin is the measure for the banking prospective it may not be applicable for other kind of companies like manufacturing companies and other things. But whenever we analyze the performance of the commercial bank we are much more concerned about the net interest margin percentage.

Because that gives a clear picture that how the commercial bank is able to generate the income and how much expenditure their making. And finally, what is the margin there maintaining in terms of the net income what is the generating in terms of the interest payments. Then we have the another one the provisions for loan loss ratio. That is the provisions for loan losses divide by the total loans.

This particular ratio basically shows how the bank is exposed to the different kind of risk, mostly the credit risk. The more the credit risk involved of a particular loan the bank provides more provisions against that particular loan. So, if the provisions are more this is not a very good sign for the bank the reason is the provisions are given to avoid any kind of loan losses.

So, if the probability of loss is more than the amount of provisions allotted against that loan will be more. So, in that context we should see that what kind of loan the banks are giving the particular loan should be properly assessed and the probability of loss, probability of default for that particular loan should be very less in that context. If the probability of loss will be less than the provisions amount will be also less because, the provisions is basically the liability for the commercial banks.

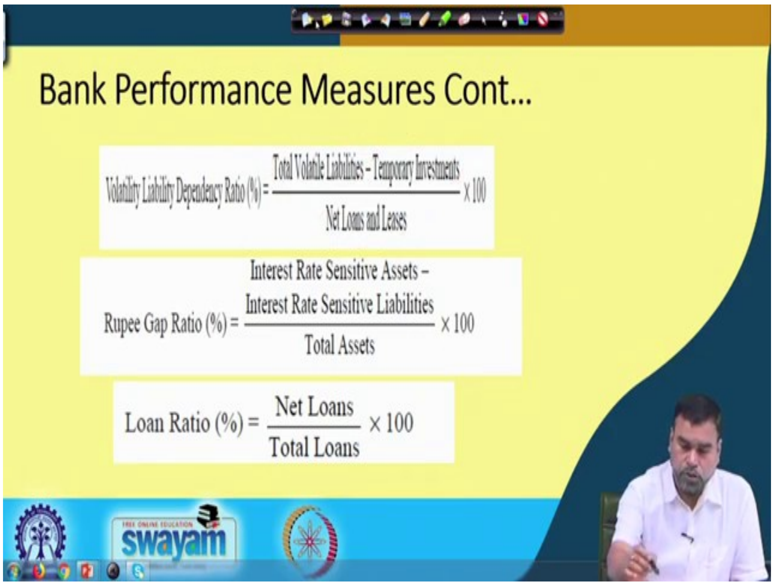
So, you should expect that amount of money should be less for the system or the bank. So, that is why this is another measure which measures that how far the commercial bank is exposed to the risk. So, that is why provisions for loan loss ratio is also considered as a risk measure for the commercial bank. Then we have a temporary investment ratio; what do you mean by the temporary investment ratio. This is a government securities sold plus the investment securities with maturity of 1 year or less and the due from the other banks divided by the total loans.

$$\text{Provision for Loan Loss Ratio (\%)} = \frac{\text{Provisions for Loan Losses}}{\text{Total Loans}} \times 100$$

So, that basically temporary investment ratio in the sense how much short term securities are very liquid securities we have sold in terms of government securities and as well as the securities which maturity period is less than 1 year or at least or maximum 1 year. And what are the dues we have from the other banks and how much loans we have given that basically a short term view that how far this particular bank is able to liquidate their assets whenever they need against that particular loan whatever they have given.

So, that basically says you that whether the banks in equality is better or not or at the time of requirement whether the bank is able to generate certain kind of revenue to fulfill the requirements of the customer or not. So, that is what basically we call it the total temporary investment ratio of the commercial bank. So, that is another measure always you used as a performance measure for the commercial banks.

(Refer Slide Time: 11:23)



Then we can move into some other measures. The other measures are the volatility liability dependency ratio this is one of the new measure for the banks use.

$$\text{Volatility Liability Dependency Ratio (\%)} = \frac{\text{Total Volatile Liabilities} - \text{Temporary Investments}}{\text{Net Loans and Leases}} \times 100$$

That means it is shows that how far the liability dependency ratio is volatile.

So, here you have the total volatile liabilities. Volatile liabilities in the sense possible particular asset whose asset value or liability value is highly volatile and how much liquidity we have that basically measures to the temporary investments. And how much loans and leases we have made in that particular time period.

So, we have to see if these particular liabilities are highly volatile. The value is frequently changing and to fulfill that particular gap how much investments we have made in terms of the liquid assets. So, that basically provide how far the bank is prone to the liquidity risk. The volatility liability dependency ratio is again related to liquidity risk of the particular bank.

Whether the bank is liquid enough to fulfill any kind of requirements if; the particular liabilities whatever they have they are basically highly volatile. So, for example, the current liabilities are highly volatile we have no idea that when the particular current account will be withdrawn. Like that you can identify some of the liabilities what the banks have; they may change frequently.

Or there are certain kind of certain jumps at the time of or any very specific time period. So, to avoid this kind of problem or any kind of situation which can be adversely affect the banks reputation and other things. The banks should have enough liquid assets with them which basically measured through the temporary investments. So, that investment is good enough to fulfill that, particular fluctuations which is happening in terms of those liabilities or not that is basically measured through the volatility liability dependency ratio.

Then we have the rupee gap ratio; this is basically this interested sensitive assets minus the interested sensitive liabilities divided by the total assets. You see whatever assets the banks have all the assets are not interest sensitive and all liabilities also are not interest sensitive. So, if you can divide those assets the assets which are interested sensitive. For example, the fix assets they are not interest sensitive, the equities are not interest sensitive.

To extend the sensitive because their fluctuations are there because the loans and as well as the deposits they are the most interest sensitive assets and liabilities. Then we have to see that: what is the gap between the interest sensitive assets and interest sensitive liabilities against the total assets whatever we have.

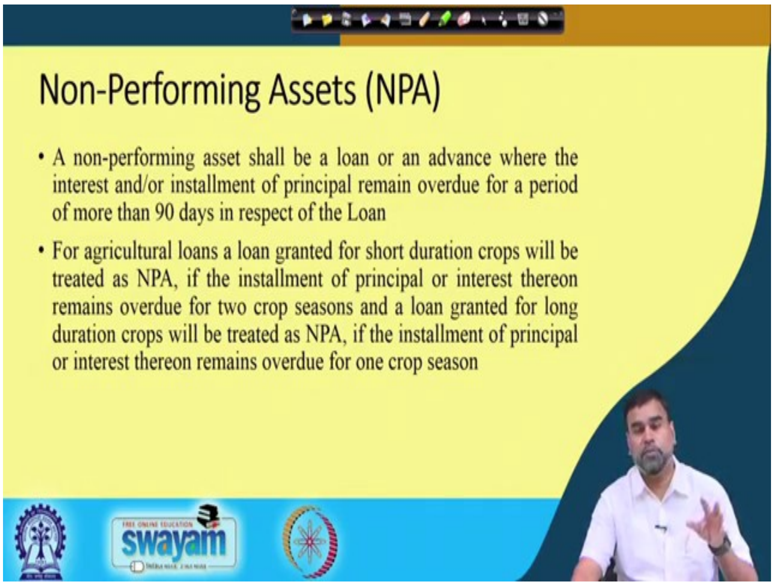
So, if it is the interest rate sensitive assets are more against this interest rate sensitive liabilities accordingly the bank has to adopt different kind of strategy to minimize the risk. So, that is basically the measures concept of asset liability management of the commercial bank.

But here we have to see that what is the difference between these two accordingly we have to define that what kind of investment or what kind of portfolio the banks should make by that this can be managed. So, that is considered as a performance measure for the commercial bank. Then another very straightforward or linear measure always or the simple measure also bank can use that is that net loans to total loans.

How much loans they have given against the net loans in the sense what is the probability that the loan can be recovered and how much total loan they have given. So, in that context they have to see that whether the loans which are basically given the bank is able to recover this loans at a particular point of time.

Or what is the probability that the default will be relatively less. So, these are the different measures which are used for the or we can say that popular measures which are used to measure the performance of the commercial bank. Then we can move to other measures other kind of issues related to this performance.

(Refer Slide Time: 15:56)



That is your non performing asset, which is quite popular in today's context because there are huge debate. The non performing assets are increasing in a very rapid manner. The growth rate of the NPA's for the public sector banks are increasing. And particularly that is a worry some matter for the whole banking system and as well as financial system.

Because those kind of problem in the instability in the banking or high risk in the banking because the NPA's are increasing that can spill over to the functioning of the other markets because the markets are highly integrated. So, in this point of time we have to always ensure we have to see that what is the probability or what is the causes of NPA's.

And sometimes we see that the definition of NPA's is also affecting that whether the NPA's should be more or less because since 2014 this concept of definition or the definition of

NPA’s have changed and as well as we have seen that there are some other factors also responsible for the NPA’s. So, here what we are trying to see first of all let us check what do mean by the NPA.

What is the meaning of the non performing asset? And then we can move into the probable factors which is responsible for the NPA’s in the system. If we talk about NPA, the NPA is basically when the asset can be converted into NPA; when the interest or the installment of principal remain overdue for a period, period of more than 90 days in respect of the loan.

So, whenever either the interest is not paid for 3 months or if at all the principal amount also should be repaid. The principal amount is not repaid for 3 months then that particular loan of the commercial bank will be considered as the non performing asset either interest or the part of the principal which are supposed to be paid within 3 months or which supposed to be paid periodically for every month basis.

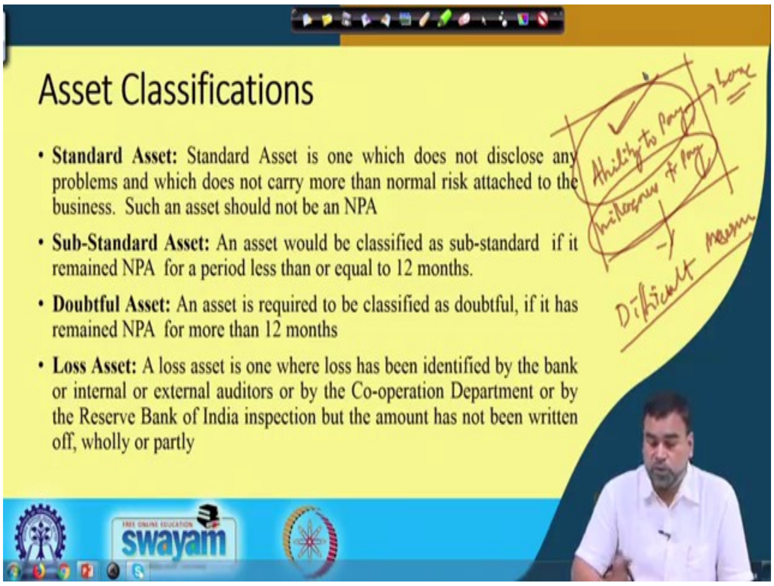
But continuously for 3 months if it is not paid then we can call that particular asset is a non performing asset, according to the reserve bank of India guidelines. What is there is an agricultural loan and the loan is granted for short duration crops then the particular definition is little bit different then here if it is short duration crop. Then if the installment of the principal or interest there on remains overdue for two crop seasons.

And a loan guaranteed for the long duration crops will be treated as NPA. Overdue for the two crop seasons and loan guaranteed for a long overdue as NPA if the installment of the principal or interest remains overdue for the one crop seasons. If it is short term duration crop then it will be considered as an NPA if the interest or the principal is not repaid for the two crop seasons. But if it is a long duration crop loan then the particular amount will be considered as an NPA if the particular amount is not paid for the one crop season.

Then more or less the crop season is more or less same 3 months to 4 months. So, in that contest they consider the crop season is the parameter to define the NPA whenever they can analyze about the agricultural loan. But whenever other of the type of loans we consider either it is housing loan, or it is a vehicle loan, or it is a personal loan, on any other loan.

There the NPA’s are basically defined on the basis of the days of non repayment of the interest or the principal so that is basically 90 days. So, this is the way the NPA in the Indian context is defined according to RBI guidelines. So, then let us see that whenever we are talking about NPA then obviously, there are classification of the assets the assets are classified into different ways whenever we considered the NPA or we define the NPA for a particular commercial bank.

(Refer Slide Time: 20:18)



Then how the assets are classified if you see the commercial banks. The commercial banks assets are basically classified into four types. And these are standard asset, substandard asset, doubtful asset and the loss asset. What do you mean by the standard asset? The standard asset is basically one which does not disclose any problem and which does not carry more than normal risk attached to the business.

That means, they are not the NPA. So, any loan which has been taken and the loan is repaid periodically, the interest is paid periodically, the principals are paid periodically. Then obviously, that kind of asset is basically considered standard asset. Apart from the normal credit risk and other risk which are already measured by the commercial bank. The other type of problems does not arise which respect to that kind of asset or that kind of loans there basically considered as the standard asset.

But whenever we talk about the sub standard asset; then sub standard asset is basically those assets if it remained as NPA for a period less than or equal to 12 months. It will be converted in the NPA if that is not paid for 3 months. But if it remained that in that category for conjugative 12 months then we can call it is a substandard asset. So, that means, the particular value or particular asset what the commercial bank has it has become an NPA.

Once it has become an NPA then in that category it remains for one year then you consider that particular asset is the sub standard asset. But whenever you talk about the doubtful asset the doubtful asset is basically that asset. Where this particular assets is required to be classified as doubtful if it has remained NPA for more than 12 months. If it again considered or it is defined as an NPA for more than 12 months we call them the doubtful assets. So, remember this is for more than 12 months this is equal to 12 months up to 1 year. It is considered as a sub standard asset more than 12 months it is considered as the doubtful asset.

Then whenever it is a final one is a loss asset the loss asset is one where the loss has been identified by the bank or the internal or external auditors or by the cooperation department. Or by the Reserve Bank of India inspection, but the amount has not been return off wholly or partly at the time of auditing some of the loans amount can be return of for any particular reasons. Due to the government some because of it with a proper approval from RBI and with the proper approval from the government some amount of loan can be return off.

But the loan is particular kind of asset is a doubtful asset. So, again at any point of time it is consecutively for a longer period of time it is considered as remainder as an NPA. But even if it is remained as NPA still it cannot be written off there is no such kind of guidelines such kind of clause, such kind of reasons by that the particular loan can be written off. In that particular point of time that particular loan is considered as a loss asset. So, this has to be the loss has to be identified by the bank or internal or external auditors or by the cooperation department. So, these are the different types of assets whatever we have. So, then already I told you that what those reasons are for NPA.

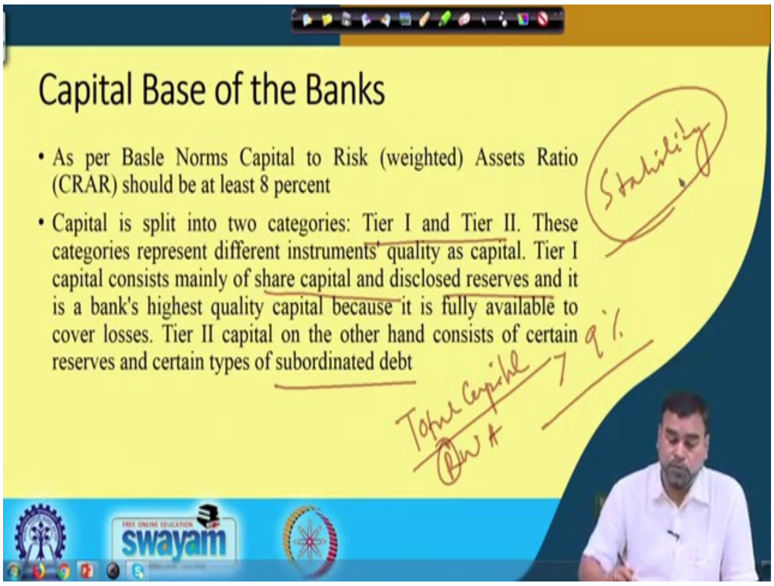
If you talk about the reasons for NPA there are two things you have to keep in the mind; one is your ability to pay and another one is your willingness to pay. Somebody is able to pay which the bank is able to really measure that. So, because of that the future cash flow this particular person or particular individual particular company can generate they can pay the money. And for some reason they are not able to pay because maybe they could not generate that revenue over the period of time. Another is willingness to pay which is mostly driven by the behavioral issues that if somebody might have the revenue, but they are not willing to pay. So, that aspect it is very difficult to measure.

Because how we can measure that whether really the bank is able to generate or the recover the money from that person who has money, but they are not ready to pay. And second thing is whenever you talk about the NPA there are various reasons. The NPA is sometimes the credit assessment of the loan is not proper sometimes then we can see that the economic conditions also creates a problem because the companies or other organizations may not be able to create that kind of revenue.

There are some other factors like farm loans in all these things farmer loans and all this things the monsoon in other things are also the responsible factors there are many factors which can create. But here I just wanted to highlight broadly there are two factors. The factors which are affecting ability to pay, but we are discussing which the tangible factors are.

And there are some factors which are related to willingness to pay and if it is because of the willingness to pay is the factor then it is very difficult to recover that loan. because the person is able to pay, but they are not willing to pay. So, these are the things what very important from this perspective these are the new dimensions. But always we should consider whenever we are providing the loans to any kind of customers.

(Refer Slide Time: 26:25)



Then we have a capital base which is your total capital. This is your total capital total capital means total equity capital and the debt or the bond divided by the risk weighted assets. And, it should be more than 9 percent in the context of India according to Basle Norms.

So, here if you see your total capital is a tier I and tier II capital and tier I capital is related to the share capital and the reserves and surplus. And tier II capital is consisting of this subordinated debt or the equity capital. That particular ratio this risk weighted assets which are risk what at given on the basis of different kind of risk over the bank can face.

So, that ratio basically measure the stability of the bank. We will discuss more about this whenever we discuss about the Basle Norms. I have just introduced this particular concept what is the discussion on capital base value, we will discuss more about the Basle Norms in the following sessions.

(Refer Slide Time: 27:36)

Then we have another issue you see the performance or everything it depends upon the retail business mostly in India. There are varieties of retail business has grown up in the Indian context. And what are those factors which affect the retail banking in India. Economic prosperity, changing consumer demography, which indicate that vast potential for growth in the consumption because, people taste and preference has change because of the demographic change.

Technological innovations, anytime online trading, online shopping, is very easy there is no need to go to the market place that increases your consumption that is why it increases the importance of the banking. Decline in the treasury income of the banks sometime because of this thing the income of the bank's get affected.

Retail loans have put comparatively less provisioning burden on the banks. You see that retail loans whenever we are taking this loan credit assessment policy of the bank is relatively more robust that is why the credit risk of the bank is relatively less. So, that is why the provisioning also increases, provisioning declines for the banks as banks are not keeping much provisions against any kind of retail loans.

So, because the appraisal policy is relatively very stringent and they have more information about the retail investor with the thorough monitoring process. These are the different factors which drives this retail business in India and commercial banks play very significant role in that particular process.

Further we will be discussing on other issues related to the Basle Norms and as well as how the particular commercial banks manage their risk. And what are those different type of risk with the commercial banks. Please go through this particular reference for this particular session.

Thank you.