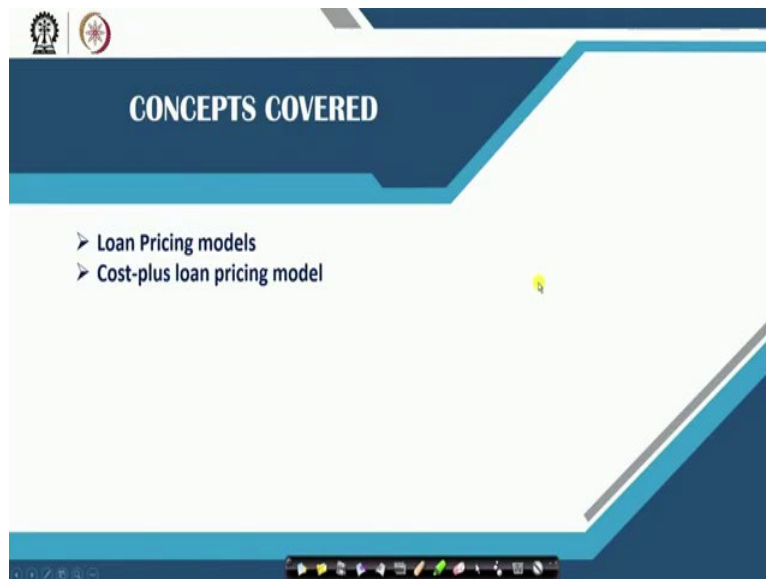


Management of Commercial Banking
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Lecture 38
Management of Lending Activities - 8

So after discussing about the different kind of ratios and as well as the Contingent Liabilities and cash flow statements and all these things for assessment of the credit loan. Loans disbursed by the commercial banks. The next step is to price the loans. That depending upon the different conditions of the different business units and as well as the different theoretical considerations the commercial banks basically decide the interest rate for the different type of loans. And today in this particular session we will be discussing about certain models which are used to price these loans or to determine the interest rate for this kind of loans and how basically it is done.

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So the concept what we basically going to cover today that the loan pricing models and there are many models, plus loan pricing models, we have the price leadership model, there are many models. But the most prominent model is the cost-plus loan pricing model and there are other models also but the basic fundamental the concept comes from the cost-plus loan pricing model. So mostly we will be the discussing the different type of loan pricing model to price the loans of the commercial banks.

(Refer Slide Time: 1:46)

The slide is titled "Objectives of loan pricing" and lists three key objectives:

- Maintain Margins
- Balance risk-return profile
- Ensure market rates

The slide also features a stylized tree diagram with various icons and a presenter in the bottom right corner.

Let us see that, already we know that what is the basic objective of the loan pricing? Whenever the commercial banks make the loan pricing or price the loans what are those things they look at? First of all they will look at the margins. How much margins they have to keep? By that the cost can be covered up and as well as they can generate certain profit out of this particular loan activities.

And the margins are different type of margins that we will discuss further and second is they have to ensure that there should be a balance between risk and return of that particular loan. How much return I am generating out of this and how much cost I am incurring against that? Because the cost means it is the risk I am incurring, risk I am going to be exposed, mostly the credit risk and other risk. What basically I am going to expose and against that particular risk whether the return what I am going to get that is basically compensated by the risk what I am going to expose.

An another thing is that they have to ensure that the loan pricing is in occurrence with the market interest rates which is prevailed in the market in that particular point of time. So that means the market rate cannot be ignored. The market rate should be considered but the loan price may be different from the market rate.

The reason is that the depending upon the risk and as well as the profit margin what they want to keep for that particular loan, the loan rates should be different or interest should be different but

the market rates cannot be ignored. Ensuring that the market rate will be maintained by that. So this is the way because of that loan pricing policy is based upon this.

(Refer Slide Time: 3:44)

The slide is titled "Margin Maintenance" and features a background with various icons including gears, a tree, a lightbulb, a hard hat, and a chemical structure. The text on the slide is as follows:

- Average cost of funds vs. marginal cost of funds
- Deployment of excess deposit: Average cost of funds
- If banks does not have any surplus fund and credit requirements are funded using the incremental deposits: Marginal cost of funds

At the bottom of the slide, there is a video inset showing a man in a pink shirt speaking. The NPTEL logo and "NPTEL Online Certification Course" are visible at the bottom of the slide.

Whenever we talk about this margin maintenance, whenever we go for the calculation of the cost of the particular loan there are 2 ways the cost is calculated. One is average cost of the funds and another is the marginal cost of the funds. So if the commercial bank average has already excess deposits with them which will be dispersed as a loan.

And they know exactly the maturity period of the different type of liabilities then they can use this average cost of the funds. So if the bank does not have any surplus fund and the credit requirements, extra credit requirements what they are going to make, they are basically funded using the incremental deposits and to create the incremental deposits they are incurring certain cost then the marginal cost of the fund approach will be used.

So that is the difference between the average cost of the funds and the marginal cost of the funds. First of all we have to look upon, that what kind of methods or what kind of approach the bank is going to use to calculate the cost of the fund. This is the first step.

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Risk-return profile

- **Tenor of loan**
 - Long term loans are riskier than short-term loan
 - Mismatch between maturity of assets and liabilities
 - Maximum tenor should be fixed accordingly
- **Credit risk**
 - Probability of default of loans
- **Size of loan**
 - It affects servicing cost

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Second we have to maintain a risk-return profile. So whenever we talk about the risk-return profile, there are 3 things which basically considered, whenever we go for a balance, trying to analyze the balance between certain profile, we consider the tenure of the loan. We consider the credit risk, probability of the credit risk and also we see the size of the loan. So whenever we talk about the tenure of the loan, why we consider the tenure of the loan?

We consider the tenure of the loan because the long-term loans are riskier than the short-term loans. And there is always a mismatch between the maturity of the assets and liabilities. Already we know that whenever we design this or look at the bank assets and liabilities, you always see that there is a mismatch because the deposits what basically the commercial banks get?

Their maturity period or the liabilities maturity period and the loans the commercial bank disburse their maturity period, always there is a mismatch and how the maturity can be balanced between them? That is also we have to look at whenever the risk-return profile analysis we do. And on the basis of that by analyzing this mismatch between maturity of the assets and liabilities the maximum tenure loan should be fixed.

How much is the maximum tenure of that particular loan that will be fixed accordingly. And another thing also in the risk-return profile we look at that is called the credit risk. So what is credit risk? It is basically nothing but the probability of the default of that particular loan that

whenever the loan is disbursed the bank has to always think of by considering the different parameters that what is the probability of default against that particular loan and because of that some extra premium or extra margin has to be imposed.

Then the size of the loan because the larger loans have a larger servicing cost because they have to monitor regularly. Reasonably they are longer in period and if there is any type of default against that particular loan then the impact of that particular default is quite high for the commercial banks in comparison to the small loans what the commercial banks provide. So that is why there are 3 things we consider whenever you go for a risk return profile of the loans, what the commercial banks always go for.

(Refer Slide Time: 8:05)

Market rates

- Loan price should be based on market rate structure prevailed in the market at that point of time
- Marginal cost of lending Rate (MCLR)
 - It is an internal reference rate for banks to determine the interest they can charge on loans.
 - Additional or incremental cost of arranging additional rupee for a prospective buyer has been taken into account
 - Factors considered for MCLR: Tenor of loan, marginal cost of funds, operating cost, negative carry on account of CRR
- Base rate
 - It is the minimum rate set by the Reserve Bank of India below which banks are not allowed to lend to its customers. (not used since 2016 in India)

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Then another one is the market rates. We have to ensure that whatever things we are giving or whatever things we are paying that is basically in concurrence or in occurrence with the prevailing market rates which is there in the market. The loan price should be based on market rate structure prevailed in the market at that particular point of time. That we have to keep in the mind.

In today's context we have basically there are 2 things what we are using whenever the loan rates are decided. One is the MCLR, Marginal cost of lending rate and another one is base rate which is discontinued since 2016 in India in particular. So what do you mean by the marginal cost of

lending rate? The concept is same. It is basically internal reference rate for the banks to determine the interest they can charge on a particular loans.

So, it is the minimum rate. The MCLR is the minimum rate what the bank basically charge for a particular loan or obviously this particular loan price or loan rate should be more than the MCLR. So how the MCLR is calculated? It is nothing but the additional or incremental cost of arranging additional rupee for a prospective buyer has been taken into account.

Whenever we calculate this MCLR, how much incremental cost we are going to incur whenever we are going to arrange a prospective buyer for that particular loan. And the factors which are considered for this MCLR calculation that is the tenure of the loan just now we have discussed because the long-term loans are riskier than the short-term loans. The marginal cost of the funds, whenever we are raising that particular money then how much cost we are incurring.

The operating cost, servicing cost and other cost and also the negative carry on account of CRR. There is your cost may be you can incur in terms of the cash reserve ratio what the particular commercial bank always maintain with the Reserve Bank of India or with the central bank. So the MCLR has to be calculated first and the loan pricing should be made on the basis of the MCLR.

At any point of time the bank cannot ignore this MCLR whenever they price the loans. So the base rate is the same concept which was used by the Reserve Bank of India and below which the banks are not allowed to lend to its customers. And now the MCLR is changing from the loan type to loan type across from banks to bank and accordingly the pricing of the loans are made.

That means that the pricing of the loan becomes more dynamic in the sense because the MCLR is changing frequently and if the MCLR is changing then accordingly the price of the loan also change. Apart from the other factors what we also considered, those factors also is quite important whenever you go for the pricing of the loans.

(Refer Slide Time: 11:05)

Cost plus loan pricing model

- Measure cost of funds
- Assess the servicing costs
- Quantify the credit risk and set premium
- Assess the profit margin that ensures ROE
- Relate the rate to a reference rate
- Ensure market presence

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Then we have to see the different models. How these are the concepts what basically the objective what always we look at. Then our measure model is the cost-plus loan pricing model which is related to the different kind of costs what we have discussed. So there are different steps we follow whenever we go for the cost-plus loan pricing model. What are those different steps we follow? First of all we measure the cost of the fund.

Then you measure the servicing cost. Then we quantify the credit risk and for that we set one premium. Then we calculate the profit margin and we have to ensure that profit margin or we have to keep that margin which is basically ensures the returns on equity or the expected return or equity what the particular bank is really interested that has to be maintained.

So to maintain that ROE how much return on equity, how much profit margin is required that has to be kept in the mind. Then relate it to a reference rate. Reference rate in this sense here in this case we are talking about MCLR. That rate has to be looked upon. Then ensure this market presence. So these are the different kind of steps we have to follow whenever we go for the loan cost-plus loan pricing model.

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Cost plus loan pricing model

- If the bank is not in a position to identify the sources from which the funds are used to extend a particular credit facility, the average cost of funds (ACF) will be the suitable option
- If the banks can clearly segregate its liabilities then it can use pooled cost of funds with similar maturities
- **Loan price= Cost of funds + margin**

Loan interest rate	=	Marginal cost of raising loanable funds to lend to the borrower	+	Nonfunds operating costs	+	Estimated margin to compensate for default risk	+	Desired profit margin
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So, let us see that how this cost-plus loan pricing model basically works. So here in this case we have 2 things. We have average cost of fund we can use or you can go for a pooled cost of the funds. So whenever you talk about the pooled cost of the fund or the average cost of the fund depending upon the situation we can use either of these 2.

So if the bank is not in a position to identify the sources from which the funds are used to extend a particular loan or particular credit facility, then the average cost of the fund should be a suitable option. There are many type of assets, many type of liabilities. If the bank is not sure from which particular fund this particular loan will be disbursed then they have to use the ACF, the average cost of the fund.

So if the bank can clearly segregate its liabilities that on the basis of different maturity, then it can, they know that from where the money will be given then they can use the pooled cost of the funds with the similar maturities. So that is why in a very simplistic way the loan price is nothing but the cost of the fund plus the margin. Simplistic way. But if you little bit expand it then it is nothing but the marginal cost or the average cost of raising the loanable funds to lend to the borrower.

Then you have the operating cost. You have the margin which is takes care of the credit risk. Then you have the profit margin which is ensuring the return on equity. So these are the different

components what basically the bank has to always look upon whenever the actual loan pricing is made. But in a very simplistic sense we can say into the cost of funds plus the margin.

(Refer Slide Time: 14:29)

Example

Maturity	Amount (Rs. Crore)	Rate
0	15	0.00
6 months	25	5.00
1 year	15	10.00
2 years	15	12.00
3 years	30	13.00

Compute the loan price using ACF and MCF approach for a loan proposal of Rs. 30 crore for 3 years?

Average cost of funds: $25 \times 0.05 + 15 \times 0.1 + 25 \times 0.12 + 30 \times 0.13 = 8.45\%$ *average cost of funds*

If margin is 2% then loan price: $8.45\% + 2\% = 10.45\%$

Pooled cost of funds: $13\% + 2\% = 15\%$

So if you see this example it will be clearer for you that how basically this thing is calculated. Let the bank has the different type of assets, liability in the different type of maturity. You have current assets maybe are savings assets there is no maturity period and it is a current assets because there is no interested involved in that and you have 6 months maturity liability. We have let 5 percent interest.

The amount is 25 Crore. 1 year maturity, 15 crore, again 10 percent interest. 2 year maturity, 15 crore, 12 percent interest. 3 year maturity liability we have 30 crores, we have 13 percent interest. So these are the different liabilities what the commercial banks already have. Let commercial bank has received a loan proposal from any kind of company which is loan proposal of 30 crores for 3 years fund.

So here there is a, I remember this is compute loan pricing using ACF. It is not MCF. That actually you can write that. It is the average cost of the funds and instead of MCF you write the pooled cost of the fund. So we are comparing between the ACF the average cost of the fund and the pooled cost of the fund not between the average cost of the fund and the marginal cost of the fund.

So here if you talk about this or maybe indirectly it is related to that but now in this example it is mostly mean about the pooled cost of the fund. So if you want to calculate the average cost of the fund, this is basically your first one any way you are not incurring any cost then it is $25 \times 0.5 + 15 \times 0.1$ that is 10 percent, 5 percent, 12 percent, 13 percent. $10 \times 0.12, 30 \times 0.13$ that is 8.45 percent. So the average cost of the fund is basically your 8.45 percent.

So, let we are assuming there is a margin of 2 percent. Simple margin of 2 percent, then your cost of the fund has become 10.45 percent. So, now if you go for a pooled cost of the fund you see that they want a loan of 30 crore for 3 years. Now already we know, for our 3 years maturity we have interest which is available is already 13 percent and we have enough money also is available to be given from that particular basket.

So that is known, for example, these are all your deposits or the liabilities. So already that 30 crore deposit base is there which maturity period is 3 years and this loan is telling that they want a loan for the 30 crore which is 3 years. It maybe 20 crore also. It maybe 25 crore also. So if we know that there is a basket which is available and from where the loan can be disbursed then it is advisable for the bank to go for a pooled cost of the fund.

And the pooled cost of the fund means for the 3 years maturity how much cost the bank is incurring. That is 13 percent. Directly 13 percent plus 2 percent which is the margin and 15 percent. So if they go for average cost of the fund approach they will charge an interest rate of 10.45 percent and if they go for a pooled cost of the fund approach they will charge an interest rate of the 15 percent. So that is the difference between the ACF and the, we can say that PCF, pooled cost of the fund.

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Example cont...

- Cost of servicing: 3%, risk margin: 0.25%, profit margin: 1.25%
- Loan Price using ACF = $8.45\% + 3\% + 0.25\% + 1.25\% = 12.95\%$
- Loan Price using PCF = $13\% + 3\% + 0.25\% + 1.25\% = 17.5\%$
- The profit margin which the bank sets should enable the bank to earn its required ROE
- When required ROE is met then the price charge which is known as contractual rate becomes expected return for that loan

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So now we can little bit expand this example. Now let we have added the servicing cost that is 3 percent cost of the service, for credit risk assessment they have measured 0.25 percent of the risk margin they have to impose and they have ensured that there is a profit margin of 1.25 percent. The, the loan price has become $8.45 + 3 + 0.25 + 1.25$ that is 12.95 and if you go for the PCF the pooled cost of the fund, here you can write that this is P, PCF then it is 13 percent + 3 percent + 0.25 percent + 1.25 percent that is 17.5 percent.

So the profit margin already I told you, the profit margin what the bank sets should enable the bank to earn its required return on equity. That actually keep in the mind. The profit margin are always fixed on the basis of the return on equity what the bank wants. So when the required return on equity is met then the price charge which is known as the contractual rate.

So if the ROE is met on the basis of the profit margin then that particular thing is called the contractual rate. The contractual rate becomes the expected rate of that particular loan. The concept of contractual rate will be equal to the expected rate if the ROE will be equal to the cost of equity, the cost of the loan.

So the cost of loan is nothing but, so whatever thing is basically maintained, so the cost of the loan pricing, the ROE should be maintained. So if the ROE is maintained in such a way that the profit margin is imposed then automatically you will find that the contractual rate will be equal

to the price of the loan. So if that is not equal then what we can say? There is a deviation among these 2, then we have to see that why that deviation comes into the picture.

(Refer Slide Time: 20:32)

The slide is titled "Cost plus loan pricing model ..." and contains the following bullet points:

- Bank will earn expected return as long as there is no default payment of the loan
- In the presence of default, the contractual rate will not give the bank the expected return.
- If the bank has to reach the targeted ROE, then the risk should be quantified to arrive at a contractual rate that in turn gives the bank the expected rate
- When a default is expected from a loan, the bank adjusts the recovered amount towards the principal

The slide also features a video feed of a presenter in the bottom right corner and a navigation bar at the bottom with the text "NPTEL Online Certification Course".

Let us see. So the bank will earn, you keep these things in the mind, the bank will earn the expected return as long as there is no default payment of the loan. So here what we have seen? You have to maintain a profit margin in such a way that the ROE will be maintained. So, if the ROE is maintained then the price of the loan will be equal to the contractual rate.

So, if there is a deviation between the contractual rate and the price of the loan then what will happen? That is happening because of certain kind of defaults. So the bank will earn expected return as long as there is no default payment of the loan. So in the presence of default, the contractual rate will not give the bank's expected return. Whatever expected return the bank is basically trying to get that is not expected if there is a probability of default.

So if the bank has to reach the targeted ROE then the risk should be quantified to arrive at a contractual rate which in turn gives the bank the expected rate. So when a default is expected from a loan the bank basically adjust the recovered amount towards the principal. Then how this particular adjustment is made? So what is our objective? Our objective is the contractual rate should be equal to the expected rate.

So the loan price should be made in such a way by that this kind of balance can be maintained. So how basically this thing can be done? Because already you know there is a probability of default. If there is a probability of default then how can manage that? Then this can be adjusted with respect to the principal.

(Refer Slide Time: 22:25)

Cost plus loan pricing model ...

- $E(R) = P1(r) + P2 [(Principal (1+r) * R) / Principal - 1]$
- $P1$ = Probability of repayment
- $P2$ = Probability of default
- R = Recovery rate
- $P1(r)$ = Returns using the contractual rate (probability of total payment of the loan in the normal course of payment)

$E(R) = P1(r) + \left[\frac{P2(Principal(1+r) * R)}{P} - 1 \right]$

So here the formula is basically what your expected return. Here if you see it is written in this way. Your expected return is equal to $P1(r) + P2 \times \text{principal} \times 1 + r \times R$. Your expected return is equal to $P1(r) + [(P2 \times \text{principal} \times 1 + r \times R) / P - 1]$. That basically you can keep in the mind.

So here $P1$ represents the probability of repayment. $P2$ represent the probability of default. R is equal to recovery rate and $P1r$ is equal to returns using the contractual rate which is says that probability of total payment of the loan is in the normal course of the payment. That means there is no default. If there is no default then that is basically represented as the $P1r$.

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The slide contains the following text:

- Loan= Rs. 1500 cr, Average contractual rate: 14%, probability of repayment= 90%, recovery rate= 80%
- $E(r) = 11.72\%$
- The difference between $E(r)$ and contractual rate arises due to 80% recovery rate and 90% repayment rate

Handwritten calculations on the slide:

$$= 0.14 + 0.1 \left[\frac{1500(1+0.14) \times 0.8}{1500} - 1 \right]$$
$$= 0.1172$$
$$E(r) = 0.9 \times 0.14 + 0.1 \left[\frac{1500(1+0.14) \times 0.8}{1500} - 1 \right]$$

The slide also features a video feed of a presenter in the bottom right corner and a taskbar at the bottom.

So let us take one example in this case. Let there is a loan amount of 1500 crore. The average contractual rate is 14 percent which is calculated historically. Then the probability of repayment is 90 percent and recovery rate is 80 percent. All are historically over the time that has been observed. Then if you go by this formula then you can calculate this one into this then your expected return will be how much?

$0.9 \times 0.14 + 0.1 \times [1500 (1 + 0.14) \times 0.8] / 1500$, anyway that will be cancelled out - 1. So that will give you how much? That will give you $0.126 + 0.1 \times 1368 / 1500 - 1$. Then that will be giving you 0.1172. Final, then it is 11.72 percent. But the contractual rate is 14 percent that we have taken. The contractual rate is 14 percent but here you got your expected return is 11.72 percent.

So there is a deviation between the contractual rate and the expected rate. So now the difference between the expected rate and the contractual rate why it is arised? Because there is 80 percent recovery rate and 90 percent repayment rate. So if this rate will be 100-100 percent then obviously what we will find? That contractual rate is equal to the recovery rate. That actually you can keep in the mind.

(Refer Slide Time: 26:10)

The Price Leadership Model

$$\text{Loan interest rate} = \text{Base or prime rate (including the lender's desired profit margin over all operating and administrative costs)} + \text{Markup}$$

Markup consists of:

- Default-risk premium paid by nonprime-rated borrowers
- Term-risk premium paid by borrowers seeking long-term credit

- Leading commercial lenders have switched to LIBOR-based loan pricing due to the growing use of Eurocurrencies as a source of loanable funds
- LIBOR-based loan rate = LIBOR + Default-risk premium + Profit margin

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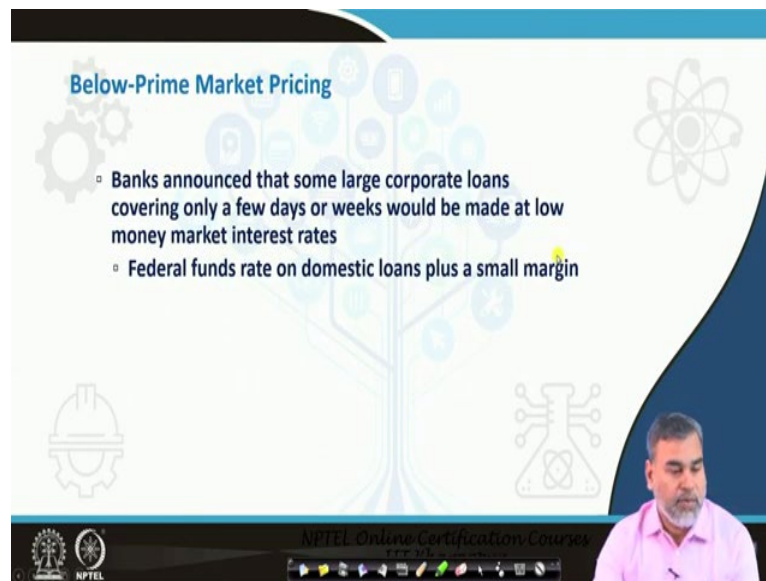
Then we have another model what we can see that is the price leadership model. So in the price leadership model is what that sometimes when we go for cost-plus pricing model, it may give you sometimes a misleading result because banks may not exactly calculate that how much cost they are going to incur against the different type of loans.

So, because of that sometimes what happens that the banks can go for any kind of leader who is the leading lender, lending organization in that particular system then whatever base rate or lending rate they are using that can be used as a base rate for them. So because of that the loan interest rate if they want to calculate they go for the base or prime rate what this particular system has plus the default risk premium paid by the non-prime rated borrowers plus the term risk premium paid by the borrowers for a long term credit.

So the base rate will be decided on the basis of the leading organization which is there in the particular system plus the mark of basically what they can do on the basis of the risk what they are going to face and as well as the term of the particular loan. Then accordingly the loan pricing of that particular bank can be decided against the type of loan. So the leading commercial lenders have switched to LIBOR-based loan pricing due to growing use of Eurocurrencies as a source of loanable funds, it is across the globe and the LIBOR-based loan rates are basically what?

LIBOR +the default risk-premium + the profit margin. So most of the banks are basically pricing the loan on the basis of LIBOR-rates. But in India we have a different system because we follow this MCLR which is mostly followed the cost-plus pricing models and the concept of prime lending rate and all these things which were there before that has been abolished.

(Refer Slide Time: 28:12)

The image shows a presentation slide with a white background and a blue header. The title 'Below-Prime Market Pricing' is in blue. Below the title, there are two bullet points: 'Banks announced that some large corporate loans covering only a few days or weeks would be made at low money market interest rates' and 'Federal funds rate on domestic loans plus a small margin'. The slide is decorated with various icons like gears, a tree, and a hard hat. In the bottom right corner, there is a small video feed of a man in a pink shirt. At the bottom of the slide, there is a black bar with the NPTEL logo and the text 'NPTEL Online Certification Course'.

Then we have the below prime market pricing. Sometimes the banks announced that some large corporate loans covering only a few days or weeks should be made at low money market interest rates. That means it is highly subsidized, that means below prime lending rate the loans can be given or below the base rate or below the MCLR it can be given. Generally, it is calculated on the basis of the treasury bills or rate or federal fund rate on the domestic loans.

Plus this small margin they can impose for their cost and all these things what they are going to incur against that particular loan. So that is another type of loan activities but which is not regular but that may also work in the system whenever any kind of a larger loan activities are taking place in this particular loan business. But mostly these loans are not that way very popular, models are not very popular.

(Refer Slide Time: 29:12)

17-16

Customer Profitability Analysis (CPA)

- Assumes that the lender should take the whole customer relationship into account when pricing a loan

$$\frac{\text{Net before-tax rate of return to the lender from the whole customer relationship}}{= \frac{\text{Revenues from loans and other services provided to this customer} - \text{Expenses from providing loans and other services to this customer}}{\text{Net loanable funds used in excess of this customer's deposits}}}$$

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Then we can also the banks can go for customer profitability analysis. The idea is also borrowed from the cost-plus pricing model. So basically here they assumes that the lender should take the whole customer relationship into account whenever they are pricing a loan. There are some subjectivity involved in that.

So here they calculated net before tax of return to the lender from the whole customer relationship is equal to revenues from the loans and other services provided to the customer minus the expenses from providing loans and other services to the customer divided by net loanable funds used in excess of the customer's deposits.

So the instead of only talking about the individual type of cost-plus pricing model they can go for an aggregate customer profitability analysis to decide that how much price they can charge for that particular loan.

(Refer Slide Time: 30:05)

17-17

Customer Profitability Analysis (CPA) Cont...

Before-tax rate of return over costs from the entire lender-customer relationship = $\frac{\text{Revenues expected} - \text{Costs expected}}{\text{Net amount of all loanable funds supplied customer}}$

- If the net rate of return is positive, the proposed loan is acceptable because all expenses have been met
- If the net rate of return is negative, the proposed loan and other services provided to the customer are not correctly priced as far as the lender is concerned
- The greater the perceived risk of the loan, the higher the net rate of return the lender should require

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So if the net of return is positive, then the proposed loan is acceptable because all expenses have been met. If the net rate of return is negative, then the proposed loan and other services provided to the customers are not correctly priced as far as the lender is concerned and the greater the perceived risk of the loan, the higher the net rate of return the lender should require.

So depending upon the cost of benefit analysis again whatever we do for the cost-plus pricing model the same we do for the customer profitability analysis but only difference is that we go for a broader analysis instead of going for a narrow analysis whenever we use this customer profitability analysis for pricing the loans. So these are the different models.

(Refer Slide Time: 30:54)

17-18

Customer Profitability Analysis (CPA) Cont...

- Earnings Credit for Customer Deposits
 - In calculating how much in revenues a customer generates for a lending institution, many lenders give the customer credit for any earnings received from investing the balance in the customer's deposit account

$$\text{Net investable (usable) funds for the lender} = \text{Customer's average deposit balance} - \text{Average amount of float in the account} - \text{Required legal reserves behind the deposit} \times \text{Net amount of collected funds in the account}$$

$$\text{Amount of earnings credited to the customer} = \text{Annual earnings rate} \times \text{Fraction of the year funds are available from the deposit} \times \text{Net investable (usable) funds}$$

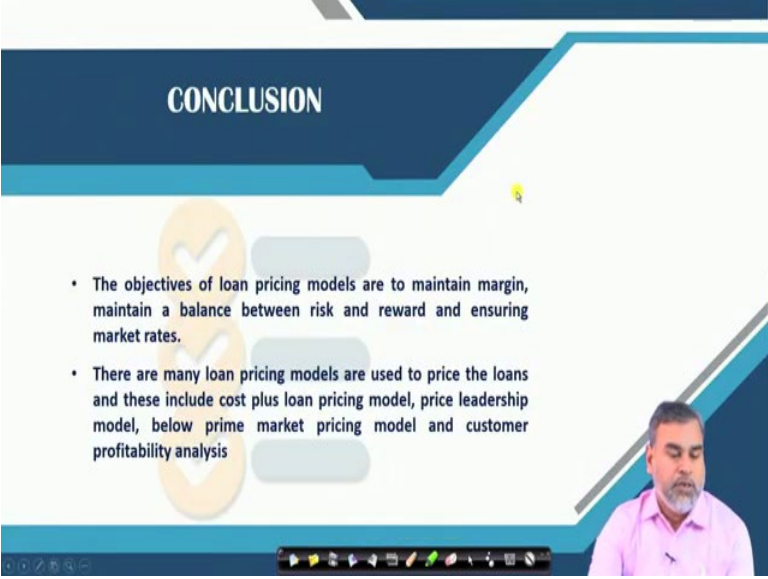
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You can also go for earnings credits for customer deposits. So in calculating how much in revenues a customer generate for a lending institutions, many lenders give the customer credit for any earnings received from the investment, the balance in the customer's deposit account and that can be calculated like this.

The net investable reusable funds for the lender is equal to the customer's average deposit balance minus the average amount of float in the account, float in the sense liquid, - the required legal reserves behind the deposit \times the net amount of collected funds in the account. Or the amount of earnings credited to the customer's account how they will calculate?

The annual earnings rate \times the fraction of the year the funds are available from the deposit \times the net investable funds. So they can also go for an earnings credit for customer's deposits that how much earnings the customer deposit is creating. Then accordingly that how much loan or charge can be given to that particular customer that also they can decide in this particular fashion. This is a part of the again the customer profitability analysis.

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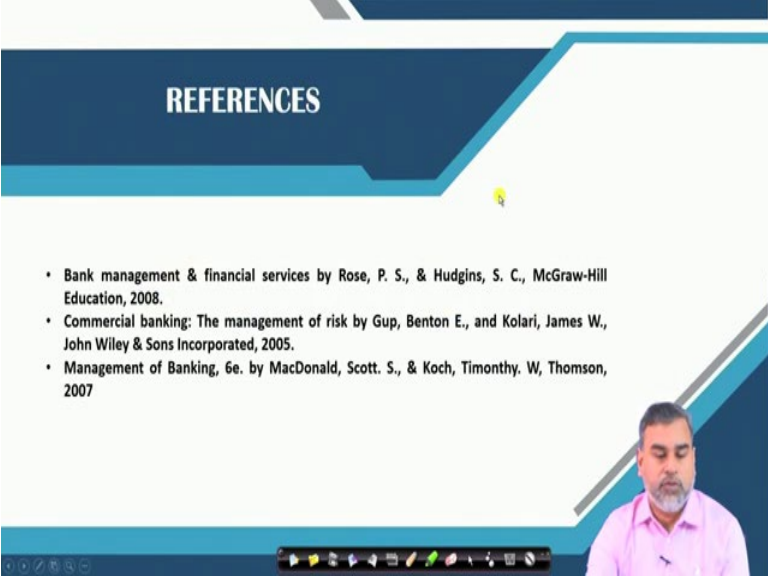
CONCLUSION

- The objectives of loan pricing models are to maintain margin, maintain a balance between risk and reward and ensuring market rates.
- There are many loan pricing models are used to price the loans and these include cost plus loan pricing model, price leadership model, below prime market pricing model and customer profitability analysis

In conclusion what we have seen that the basic objective of the loan pricing models are to maintain the margin, maintain a balance between the risk and reward and ensuring the market rates like MCLR and all. There are many pricing models what the commercial banks use which include the cost-plus loan pricing, price leadership models, below prime market pricing model and customer profitability analysis to price the loans.

And depending upon the gross profit margin and as well as the risk premium with respect to the credit risk and their actual margin and the servicing cost, the pricing of the particular loans are made and they should maintain this particular gross profit margin in such a way by that the ROE can be maintained. So this is about the different models what we use for the pricing of the loans.

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These are the references what you can go through for this. Thank you.