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Lecture 09

Bank Performance Measures - IV

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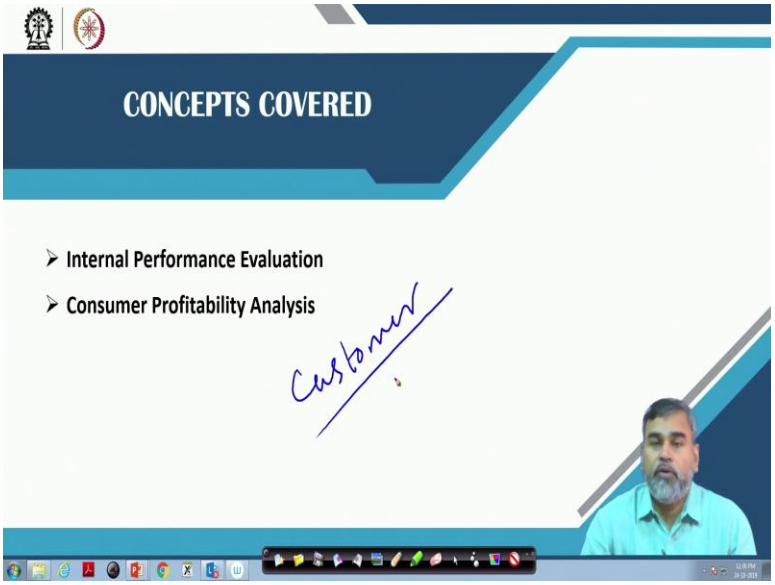

So, after the discussion on the performance measures with respect to the non-interest income and non-interest expenses and the productivity measures of the employees. We can start the discussion on the how the profitability or the performance of the commercial banks are measured through this internal line of business because there are many line of business the commercial banks have, different kind of operations the commercial banks do.

So, whenever you talk about the different kind of operations what the commercial banks do across the different type of operations what they are making, how basically in the unit wise or maybe the different activities wise the performance evaluation can be made. For example, you take a different loans, different type of loans across that how we measure.

So, that is also another objective always the bankers think that how exactly the internal evaluation, internal performance evaluation can be made across the different lines of business, whenever the commercial banks are doing different lines of business, what exactly the different parameters or different factors we should consider. Whenever we are measuring the performance of the different lines of business.

And second, another thing also how the customer or the consumer profitability analysis can be made. Whenever you talk about the customer or the consumer profitability. Basically it is there is a customer who basically uses the banks or maybe they are doing the operations. You can read it also the customer.

Customer profitability, in the customer profitability analysis also we try to make that for each customer or what kind of customer the commercial bank should have to maximize their profitability. So these are the two different other input and aspects. We should analyse or we should discuss whenever really we are thinking about the performance measures of the Commercial Bank. So, this is basically another things which always we keep in the mind.

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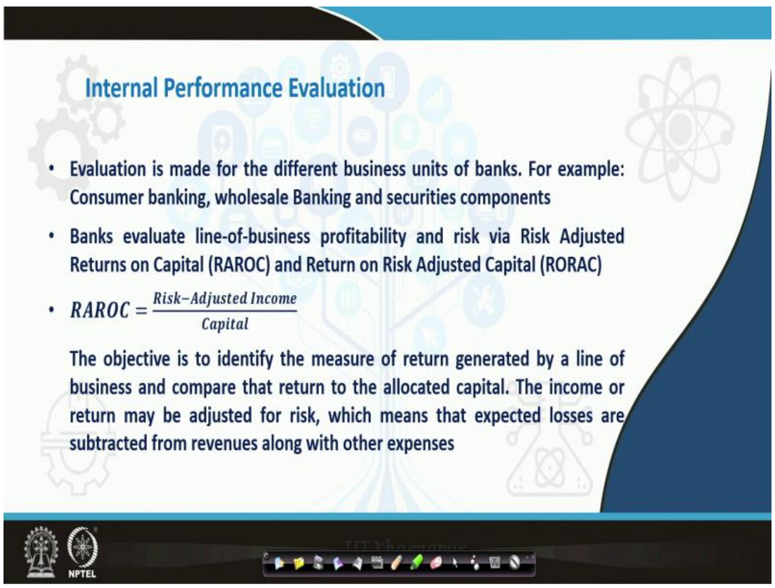

Here if you see that what basically we do in this case, already I told you. That what exactly this internal performance evaluation is. The internal evaluation basically is made for the different business units of the banks. You see whenever you talk about the loan quality, we are talking about the total loans out of them how much is considered as NPA, how much is not considered as NPA.

These are basically measures the aggregate measures of the loan quality. But for example, the commercial banks give different type of loans. Consumer Loan or consumer banking, wholesale banking. Different kind of securities they always consider for their investments. Short-term securities, long-term securities. Then how the commercial banks will conclude that which type of asset or which type of business is giving them better profit or better revenue in comparison to the others.

So, that is basically a very practical problem what the commercial bank face, weather this line of business or this particular type of loans is able to generate the profit for them or not, that is, or some line of business is profitable and some line of business is unprofitable, then which line of business should be given more importance and which line of business should be giving less importance so because of that the internal performance evaluation is very important from the commercial banking point of view.

How the banks do that? Whenever banks basically do this internal performance evaluation they take the help from these two different ratios, one is your risk adjusted return on capital. In short, we called it as a RORAC and return on risk adjusted capital RORAC both are used interchangeably. So, whenever you talk about the return adjusted, risk adjusted return on capital that RAROC. Which is nothing but the risk adjusted income upon the capital. The risk adjusted income upon capital and what is the objective?

The objective is to identify the measure of return generated by a line of business and compare the return to the allocated capital. Because to generate the return we have allocated a capital. How much capital I have generated. How much capital the commercial bank has allotted and using that capital how much return has been generated? And again, that return has to be adjusted with respect to the risk.

The income or the return are adjusted to the risk which means that the expected losses are subtracted from the revenues along with other expenses if I allotted certain capital for a business, then how much return I have generated that is the nominal income. But once I have generated that income that income also should be adjusted with respect to the risk and the expenses whatever I have incurred.

So, for every line of business whatever capitals have been allotted and out of them how much income has been generated and after you get this income that you have to adjust it with respect to the risk how much you have incurred because against risk you have incurred certain expenses, certain cost and if you take a difference between them then what basically you can do. You can find out that risk adjusted income.

So that this risk adjusted income divided by the capital that will give you the RAROC that is the risk adjusted return on capital. That you can calculate for each line of business, then from there you can compare that which line of business is really doing better and whose RAROC is more and whose RAROC is less. In that basis we can decide that which line of business should be given more importance and which line of business should be giving less importance. So, that is the basic objective of using this internal performance evaluation.

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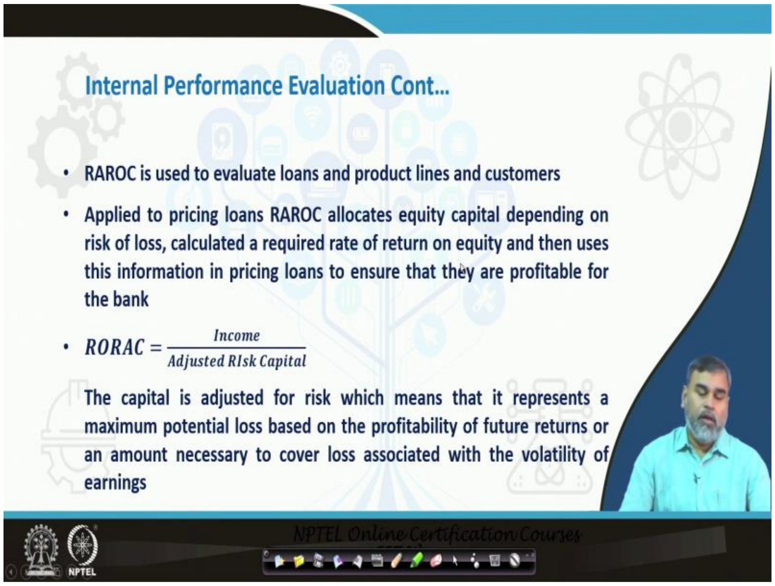

So, the RAROC is used for many things. It can be used for evaluation of the loans. It can also be evaluated for the different product lines and also it can be evaluated for the different type of customers. For loan giving activities and as well as the deposit taking activities. So, they also do some customer based analysis using the RAROC.

So, whenever we are talking about the RAROC the risk adjusted return on capital. For example, we are using it for pricing a loan if you are using it for pricing a loan what we do. The first we allocate the equity capital to that particular loan against that loan we assign some equity capital on the basis of the risk of loss. And how much return on equity or objective of return on equity from that. And after that you price that loan with a base price by that your return on equity can be maintained. So you have expected return on equity. You have assigned certain capital against that particular loan.

Then you should decide the price of the loan in such a way by that if this particular price is assigned to that loan then my return on objective can be fulfilled, the expected return on equity whatever you have thought of now that can be fulfilled. So, that is the basic objective of using the risk adjusted return on capital analysis for pricing of the loan.

And another one is your RORAC, here the capital is adjusted for the risk which means that it represents a maximum potential loss based on the profitability of the future returns or an amount necessary to cover the loss associated with the volatility of earnings. So, how much loss basically I am going to incur because of there is a fluctuations in the earnings and if there is a fluctuations in the earnings then how much capital I should always keep of aside or should alert to them by that my other objectives like return on equity and other things will not be getting affected.

In both way, one thing is here we are talking about we are adjusting the risk with respect to the return on capital what we are going to get from this. Risk adjusted income upon the total capital. Here what we are doing that income upon the risk adjusted capital. The reason is here we are adjusting with respect to the capital that how much capital should be assigned by that the risk can be compensated.

So, that is the basic difference between these two measures but more or less the implications are same. So, if you see the example. Let for example I already told you that the loans should be priced in such a way by that the return on equity can be maintained for that we are doing the RAROC analysis. How we can do this?

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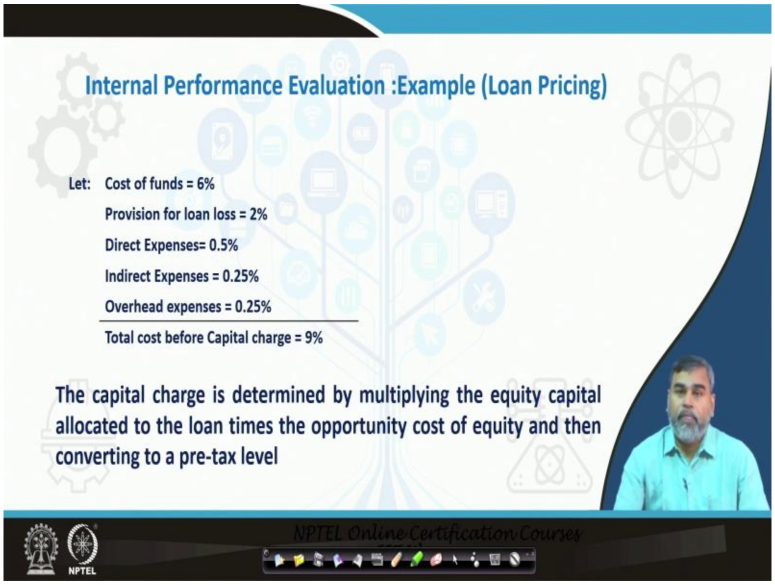

Simple example if you take, let there is a cost of the funds for the bank. The average cost of the fund the bank is bearing that is 6 percent including deposit rate, all these things. Then the provisions for the loan losses against that loan, let you are incurring 2 percent, direct expenses the servicing cost the agent cost and all these things you are bearing as 0.5 percent, other indirect expenses like marketing expenses other expenses, finding the customer and all over we are incurring 0.25 percent.

Overhead expenses against that particular loan like salary wages and all kinds of thing you have borne the expenses of 0.25 percent. So, the total cost what you have incurred before the capital you are charging against that. That is 6 plus 2, 8. And here it is 1, 9 percent. Total, basically 9 percent. So, now let bank have certain objective, let bank has to maintain a particular amount of ROE and bank has a particular amount of equity to capital ratio and there is a tax against this profit what the bank is generating.

So, keeping those things in the mind, how much capital should be charged and on that basis you have to decide that how much pricing or loan pricing should be made. So the total capital charge is determined by the multiplying the equity capital allotted to the loan times the opportunity cost of equity that is the cost of equity and then convert them with respect to the tax. That means it has to be adjusted with respect to the tax.

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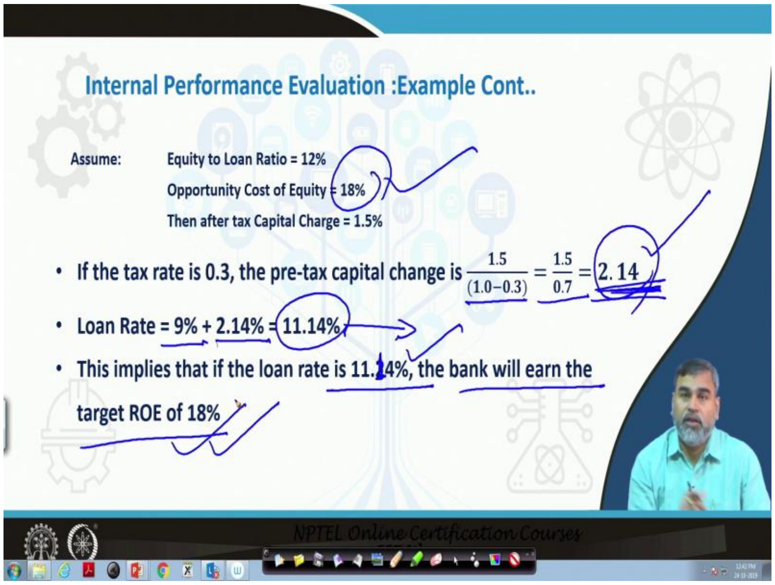

In this example, if you assume equity to total loan ratio that is the capital structure of the bank that is 12 percent. The opportunity cost of equity is let 18 percent. That means we are assuming that is return on equity should be 18 percent. Then the after tax, capital tax will be nothing but 18 divide by 12. That is 1.5. So, the tax rate is 0.3, then the pre-tax capital change should be 1.5 divided by 1 minus 0.3.

That is your, because 1 means this is 100 percent minus 0.3 that is 0.7 when 1.5 divide by 0.7 you are getting 2.14. So this 2.14 percent has to be added to the loan rate to price the loan and now the basic loan rate was 9 percent. And you are adding 2.14 percent, 11.14 and how we can interpret this 11.14, the 11.14 percent is nothing but if the loan rate is 11 point, it is not 24, it is 14. If the loan rate is 11.14 percent. There is a typo right here. If the loan rate is 11.14 percent here then the bank will earn the target return on equity of 18 percent.

So, here, these are the expected values what the bank decides from the beginning. And once the bank decides those things in the beginning they always try to calculate the loan rate in such a way by that the return on equity can be achieved. So here, they are charging this 2.14 percent which is the capital change. So, if this much capital will be imposed on that.

Then the target ROE of 18 percent can be achieved. So, this is basically what we can say that internal performance evaluation you can do through this RAROC for a particular loan pricing.

This is basically one example, you can use it for many other line of business what the commercial banks have and how much capital they should charge to fulfil their basic objectives in the beginning whatever they have thought of or the expected objectives whatever they have.

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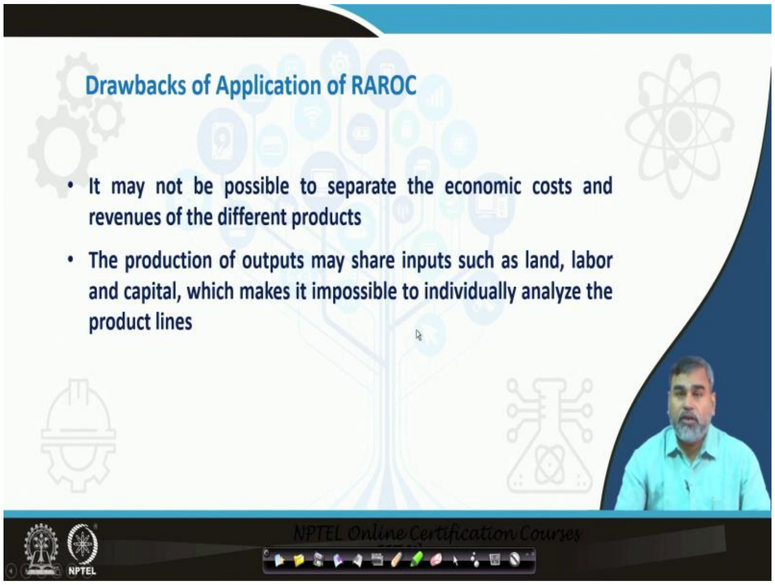

So, but there are certain problems with respect to this particular method. The problem is, it may not be possible to separate the economic cost and revenue of the different products, practically it is difficult. What is the economic cost? What is the revenue we are generating out of this? So, this is segregation of those kind of products whatever the commercial banks are making and the segregation of cost and revenue what we are generating out of the different products is relatively difficult in the practical sense. So that is one thing.

Second thing is, the production of outputs for one output we are not using a single asset, one asset can be used for many products, like land, labour, capital which are used, it is not like that for this loan only this much building is used or these much machines are used. One machine, same machine can be used for the different products also. So, how individually we can calculate this cost and revenue from this. That is why it is impossible to individually analyse the product lines in that sense.

Because there is overlapping, the same thing or same kind of inputs can be used to generate the revenue from the different lines of business. If the same type of revenues or same type of machines or same type of inputs are used to generate the revenue from the different lines of business, then segregation of the cost and revenue from the different individual lines of business is relatively difficult for the commercial banks. So that is the drawback for this particular analysis.

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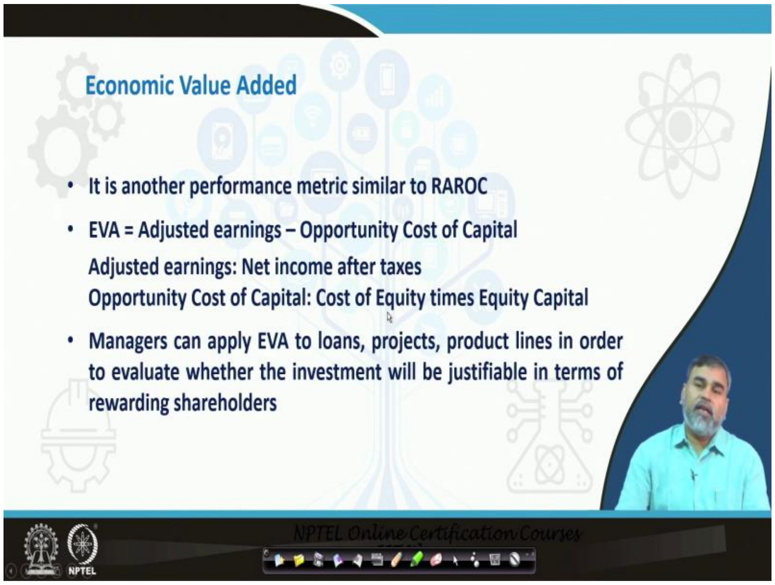

So, then there is another type of analysis the commercial banks can use that is called economic value added. It is more or less similar to RAROC. Here what is the economic value added? The economic value added is adjusted earnings minus the opportunity cost of capital. The adjusted earning is nothing but the net income after taxes what the commercial banks are generating. And the opportunity cost of capital is nothing but the cost of equity multiplied by the equity capital that will give you the opportunity cost of equity.

So, what the managers can do. The managers can apply this EVA to the loans, to the projects, to the product lines in order to evaluate whether the investment will be justifiable in terms of the rewarding the shareholders or maximizing the value of the shareholders. What kind of projects the commercial banks should take up to maximize the profit or maximize the interest of the shareholders for that particular commercial bank.

The basic objective of EVA is to identify that which products should be taken up, and which business lines should be given more importance by that the shareholders’ value maximization can takes place. The shareholder value maximization can take place if that thing is taking place, then the interest or the other performance measures of the commercial banks can be maximized. So that is the basic motto of the EVA or the economic value added.

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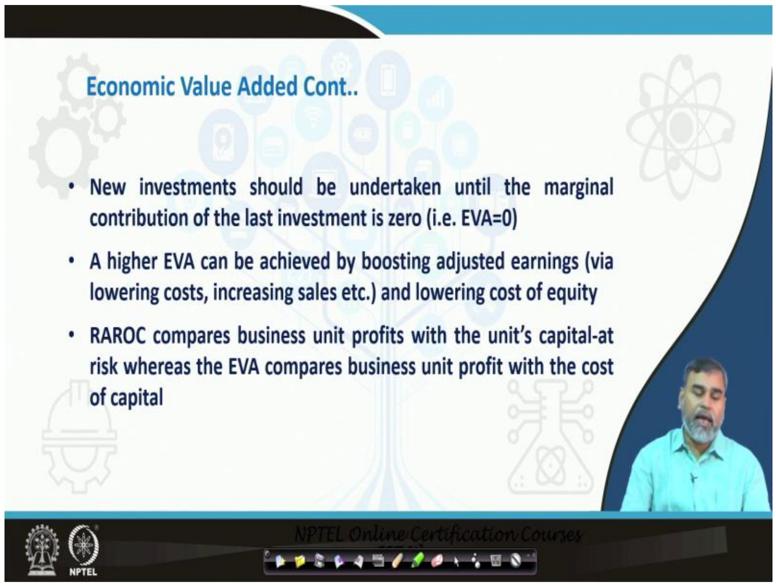

So what does it imply? It implies that the new investments should be undertaken until the marginal contribution of the last investment is zero. So, you can add up the more capital for that line of business until the economic value added becomes zero. Once the economic value added becomes zero, then further addition of the capital to that particular business is not cost effective or it is not going to generate any revenue.

So, because of that we should be very concerned about that how much is the economic value added for that particular business and whether really the value addition is happening with respect to infusion of that particular infusion of the capital into that particular line of business. So, the higher economic value added can be achieved either by boosting the adjusted earnings and how you can boost the adjusted earnings? You can lower the cost or you can increase the sales and again lowering the cost depends upon certain factors. And increasing the sales also depends upon certain factors.

If those kind of factors will be taken care, either you can increase the earnings or you can lower the cost of equity. So, how you can lower the cost of equity? Again you have to look at because the cost of equity again is not in the hand of the commercial bank. Again we have to look after the condition of the market. We have to see the shareholders interest. We have to see that how much risk the shareholders taking whenever investing in this particular security.

So both market risk, unsystematic, systematic all type of risks have to be taken care whenever really you are interested to lowering the cost of equity. So in that sense it is a very tricky task for the commercial bankers to maximize their EVA and to find out that really how the EVA can be maximized for the different type of investments or different kind of product line of business what the commercial banks are really following. If you see the difference between these two that RAROC and EVA. The RAROC basically compares the business unit profits with the unit’s capital at risk.

Whereas, the EVA basically compares the business unit’s profit with the cost of capital. So, here the capital at risk, how much risk is involved with respect to the capital, but here it is talking about the cost of capital. So, EVA is a better approach people always consider because that is basically considering the cost of capital which incorporates the risk involved with respect to that raising the capital also.

So whatever risk is involved and as well as the other factors which are really affecting the cost of capital that is considered whenever we are talking about the application of EVA but whenever we talking about RAROC, although we are considering the unit’s capital at risk but still there are some other dimensions are not able to be considered. But the major important thing is that the segregation of the different line of business calculating the economic cost and profit out of this is really a difficult task. Whenever really commercial banks segregate this line of business in the market.

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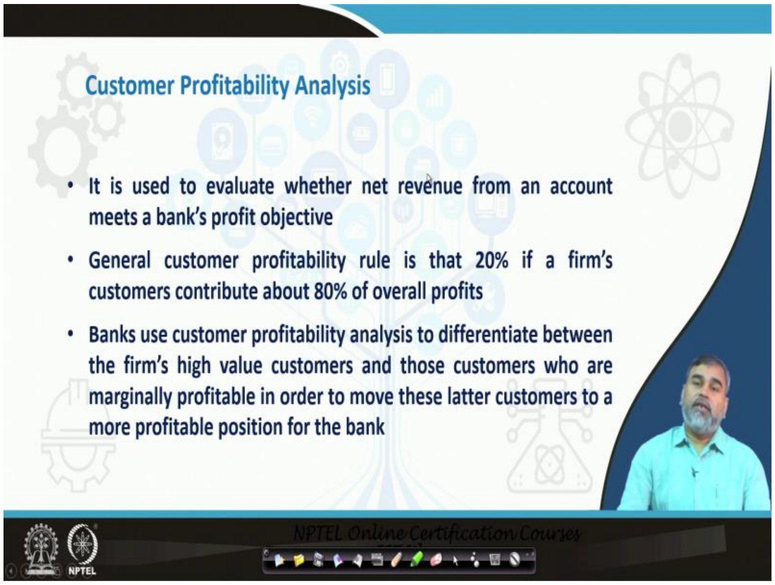

Then another thing is that the commercial banks are concerned about the customer profitability analysis. And how the customer profitability analysis they do? It is basically used to evaluate whether the net revenue from an account meets the bank's profit objective, anybody has opened the account, anybody is a customer for the commercial bank, either they have a deposit account or they have a loan account. How that particular customer is able to generate the profit for the commercial banks. So, generally, the rule is the general customer profitability rule is 20 percent of the firm's customer contribute 80 percent of their overall profit.

Whatever customers the commercial banks have. If you observe. That real the 20 percent customers are really helping the banks to generate the revenue, they are the major stakeholders. And there are another group which are not contributing in that regard, they are contributing but they are not the 20 percent of the customers are contributing that 80 percent. Another 80 percent of the customers are contributing another 20 percent that should be, generally it should be the rule.

That is why the banks basically try to use the customer profitability analysis to differentiate between the firm's high value customers. And those customers who are marginally profitable and they try to do certain kind of or follow certain kind of strategy to move these customers like who are the marginally profitable to a more profitable positions for the bank. So, they will convince those marginally profitable customers in different ways by that they will contribute more to the profit for commercial banks.

So, that is the basic objective for the customer profitability analysis. First, bank analyses that how much percentage of the customers contribute how much to the total profit, once they get it, they try to see that who is, to whom we should give more emphasis by that they can contribute more to the profit of the commercial banks. So, that is basically the overall customer profitability analysis.

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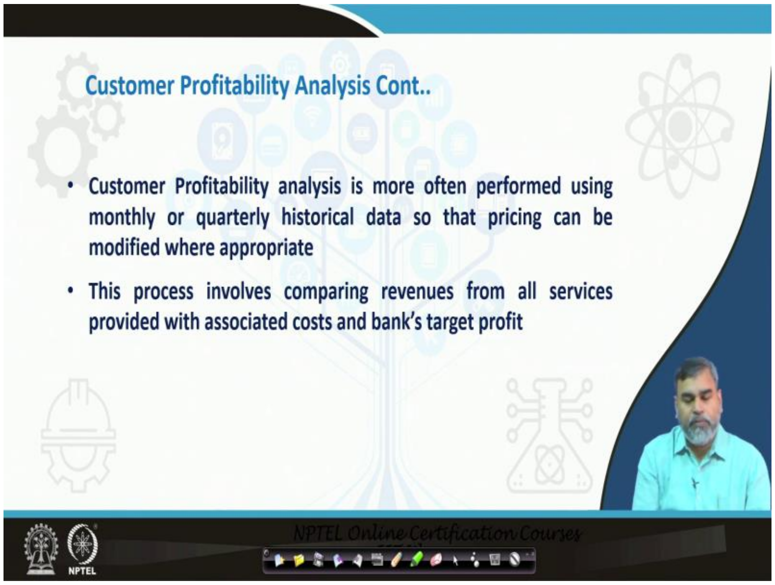

So, this is basically preferred or basically always companies or the banks do using monthly or quarterly historical data so that the pricing can be modified where appropriate. That is why you see loan pricing for different customers it is different, why it is different? Because of the contribution of the customers towards the profit. And that is why this process involves comparing the revenues from all services provided with associated cost and bank's target profit.

How much cost they are incurring for each customers and how much profit they are able to generate from each customer. Then they basically try to compile those data and accordingly they decide really how the customer profitability analysis can be carried out by that the bank's total profit can be maximized, by identifying those customers or giving more incentive to those customers which are really adding the revenue to the commercial banks in a better way. So, this is what the customer profitable analysis is.

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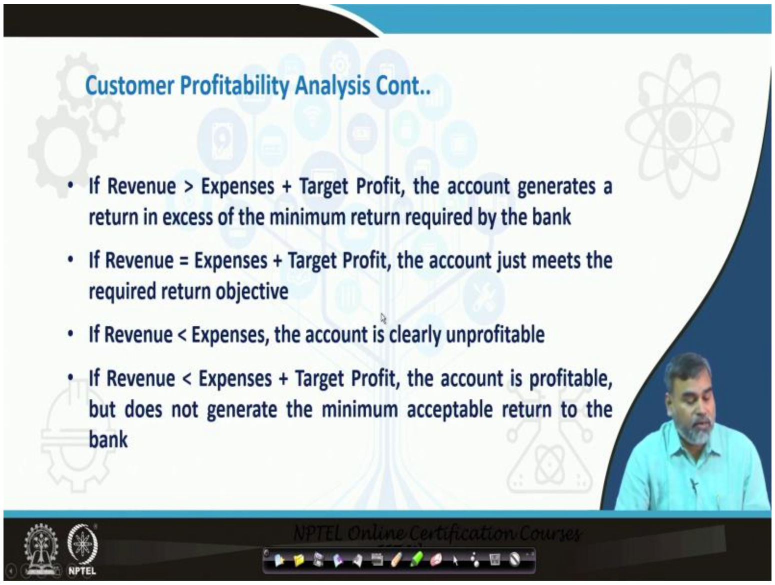

So, here there are four conditions what you can observe. If the revenue generated from this will be more than the expenses plus the target profit what the commercial banks has fixed from the beginning, then this account generates a return in excess of the minimum return required by the bank. Whatever predicted return the commercial banks have or they expected return they have fixed. If the revenue generation from that account is more than the expenses whatever they have incurred and as well as the target profit then really the commercial bank is in a good position and they are generating some excess return out of this particular account.

If the exact revenue is equal to expenses plus target profit then the account just miss the required return objective of the banks. But if revenue is less than the expenses obviously the account is in the loss, we are incurring more expenses but revenue is not generated. But if the revenue is less than expenses plus target profit then the account is profitable but does not generate the minimum acceptable return to the bank, profitable but banks has keep certain kind of expected return out of this account which is not fulfilled because it is covering the expenses, giving some extra return but the target profit whatever the commercial banks have fixed that is not fulfilled.

So, because of that, even if it is profitable it is not fulfilling the minimum required criteria or minimum required return what the commercial banks have fixed. So, these are the different conditions, different analysis which is the part of the customer profitability analysis the commercial banks do.

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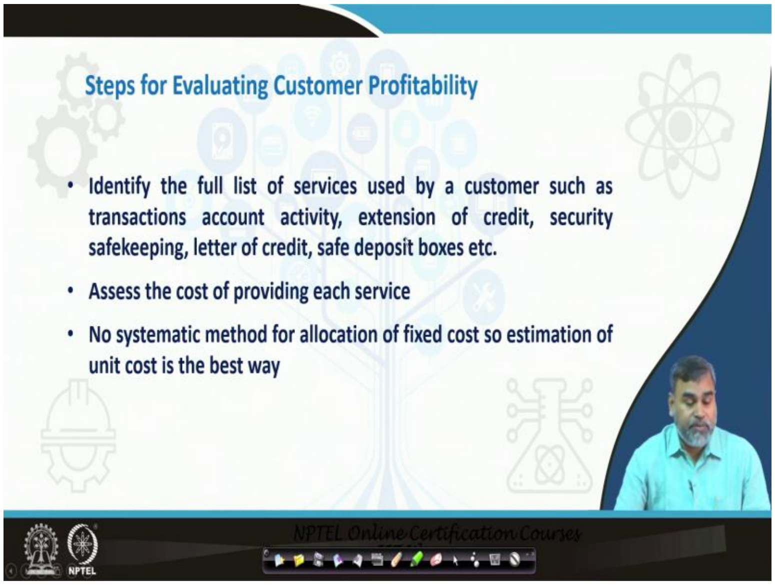

So, what is the steps they will follow? Generally commercial banks follow. Identify the full list of services used by the customer such as how the customers using the account for the transactions, account activity, extension of the credit that means the loans, security safekeeping, letter of credit. Whether they are using the safe deposit boxes in the banks, whatever, one customer is using the banks in the different ways then first you identify the full services, what the customer is getting from the commercial banks.

Then find out or estimated the cost for each services what the banks basically incurring and after you calculate the cost of these services and how much revenue in terms of interest income you are generated out of these or in terms of commissions or fees you are generating out of this, then you can get a difference between them and already overall profit required profit the bank has fixed.

Then finally what basically you can do, you can compare that whatever profit you are fixing and whatever expenses you are making and whatever return basically you are making, whether what kind of relationship you are getting from them. But the one problem is there is no systematic method for allocation of fixed cost. Basically measurement of the fixed cost for the different line of business that already told you, so because of that the banks basically use this unit cost, the average cost.

This total, fixed cost instead of talking about the per unit cost basically they consider, instead of total fixed cost used in that particular line of business they average it out and multiply the number of products whatever they are using in that particular line of business. So that is the way they capture this fixed cost incurred in that particular line of business and they try to measure in that fashion. So, this is the way the customer profitability analysis is carried out in the commercial banks.

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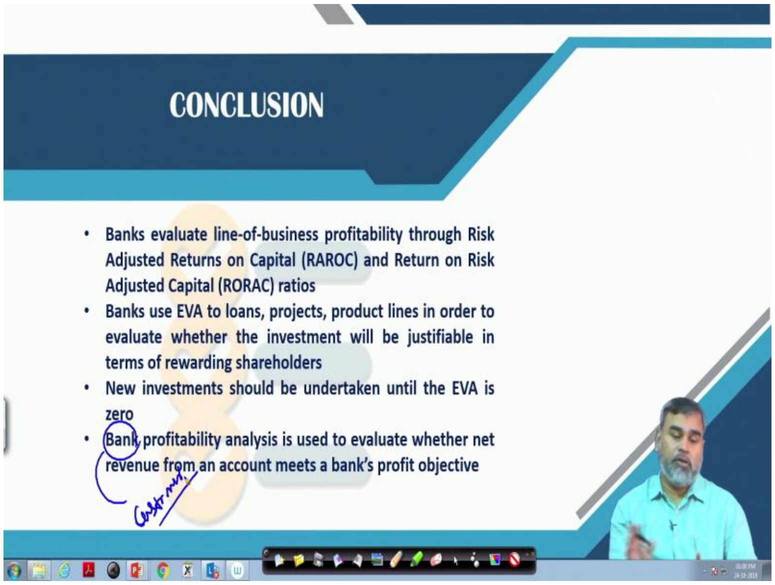

So, these are the major conclusions. So, banks can evaluate their line of business profitability through RAROC or the RORAC. Banks also can use EVA to evaluate the loans, projects, product lines, whether to know that whether the investment will be justifiable in terms of rewarding the shareholders. New investments should be undertaken if the economic value added is zero until the economic value added is zero, after that once become negative they can stop investing in that particular project.

And the bank profitability analysis is used to evaluate whether basically it is customer profitability analysis bank always uses to evaluate whether the net revenue from an account meets a bank's profit objectives. So, you can read this one as the customer profitability instead of bank profitability.

So, this is basically your customer profitability. The customer profitability analysis is used to evaluate whether the net revenue from an account meets a banks profit objective. So, this is what about the discussion on the internal, how the internal line of business are evaluated and how the customer's account is evaluated to know that whether the account is really profitable or not. So, these are the things what basically with respect to the other aspects of the bank profitability or the performance measures.

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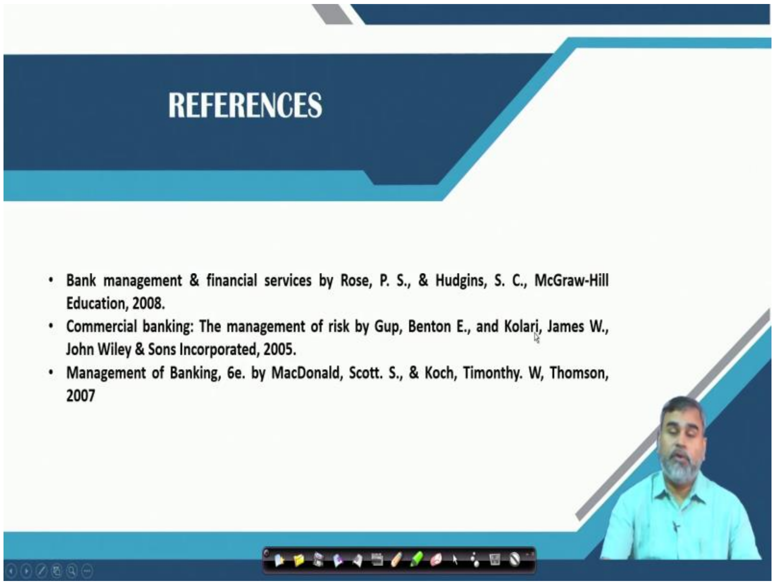

These are the references what you can go through for the detailed discussion and in the coming classes we will be discuss some other aspects like we are talking about what are the different strategy the banks follow to maximize their profit or the return and how the cost can minimized or revenue can be maximized and as well as the calculation of the transfer pricing and all. Thank you.