Working Capital Management
Dr. Anil K. Sharma
Department of Management Studies
Indian Institute of Technology-Roorkee

Lecture-43
Credit Risk Analysis-II

Welcome students so we are in the process of understanding the financial management process of the companies and we are learning it with the help of certain ratios in the previous discussions we have learnt some important ratios to understand the financial management process of the company under consideration there we saw different ratios like a debt to equity ratio and then the short term debt to equity ratio and then we talked about the resources like they finished goods inventory ratio.

And then the days of the stock holding so are in the series we will go for that and I like to discuss with you more ratios which are important from the perspective of a potential buyer that whether we should extend him the credit or the firm the credit or not and apart from these ratios which we have already talked about which maybe relating to the your operating the structure of the operating management or the financial management. So, in the financial management we had talked about 2, 3 ratios earlier.

And now will be talking about some more important ratios so in way we are trying to find out the level of their current assets there holding currently and then the promptness with which they can pay the liabilities short term liabilities as and when they become due . So, you can say that we are studying the liquidity position of the firm also and when we talk about the inventory levels so we see that what level of inventory is there a holding if the component of inventory is very high it means we consider that inventory is a current asset.

But it is least liquid so are we will try to understand that how much inventory they are having and what is the; what are the days of their stock holding we talked in the previous class and now I have will be looking forward to another ratio is also the one ratio is like receivables turnover ratio. So, in this ratio what we are to see is that is since any firm is borrowing from the company which is making the analysis of the borrowing company.
So, it means that companies the borrowing company is also selling the product for the in the market may be to the final consumer. So, maybe you are making the analysis of your wholesalers

or maybe the retailers or maybe one company is involved into buying from other company and then selling it in the market to the customers. So, certainly they must be selling at the credit along with the cash. So, by calculating this ratio that is the receivables turnover ratio we are trying to study the Working Capital Management by the potential borrowing company.

And we are trying to find out that if they are selling on the credit in the market so how quickly they are able to collect the credit sales. So, first part in this ratio will be to find out that what is the extent of their credit sales as compared to the total sales are as portion or part of the total sales what is the proportion of the credit sales, number 1 if you are not selling at all in credit it means we can expect that there are highly liquid company and to sell them on the credit then not be any problem for them to pay back to the selling company.

So, but if they are also selling for that in the credit on the credit in the market first we have to see that what proportion of the total says they are selling on the credit one and if this proposal is very large then it raises the question mark that if they are selling further in the market on credit and the large part of the sales are going to the market on credit. So, if their sales are not collectible quickly the how will they be able to pay back to the firm from whom they are buying?

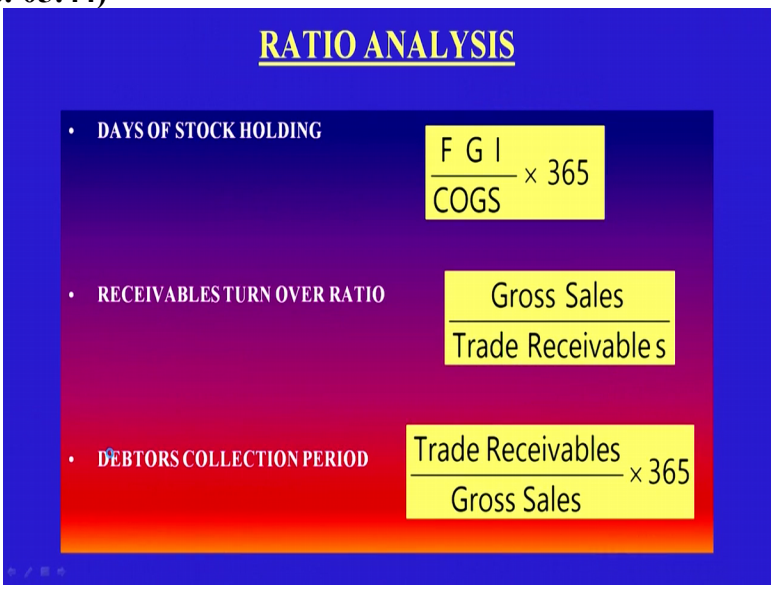
So, the firm who is making analysis about the borrowing firm of potential or say prospective borrowing firm, the borrowing firms receivables management has to be reviewed and has to be analysed. So, there are two parts like inventory turnover ratio here also in the receivables turnover ratio also we have two parts first we try to assess the level of the credit sales receivables level of receivables accounts receivables.

And then is the collection period average collection period is how much for how many number one they are selling on credit yes they are selling on credit water magnitude of the credit sales is there out of the gross sales this much for example X amount and then or that credit sales are collectively in how much period of time so that will be the say finding out debtors collecting period. In this case receivable turnover ratio as we have seen in case of the inventory turnover ratio finished goods inventory turnover ratio.

We taken the numerator the CUG divided by the finished goods inventory in this case we are taking the gross sales we are not taking the only cash all the credit says we are taking the gross sales or the total sales right. Here we can say take into account the total amount not minus excise

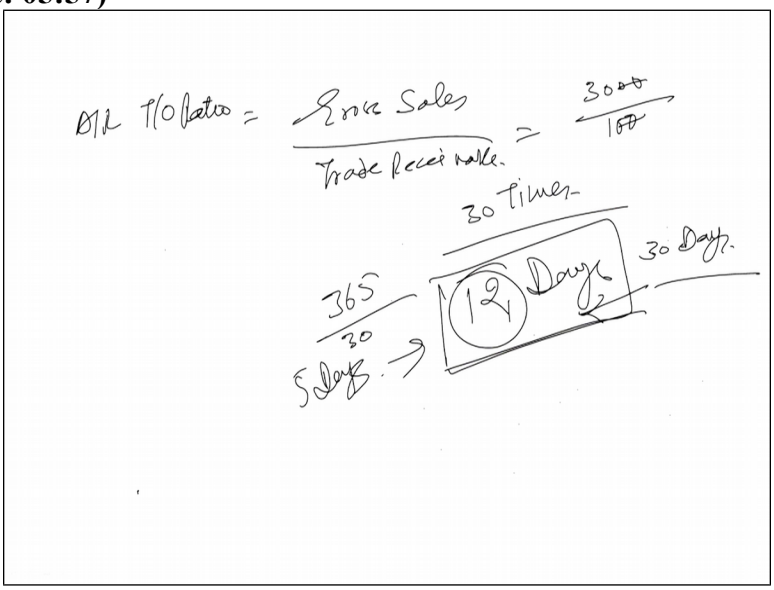
duty because that has also to be collected from the credit sales out of the total sales of the gross sales if you divide these gross sales by trade receivables are by accounts receivables.

(Refer Slide Time: 05:44)



By accounts receivables so it means in this part out of this total amount when you calculate gross is where I think is the gross sales.

(Refer Slide Time: 05:57)



We are writing here the gross sales that is the receivables turnover ratio accounts receivables turnover ratio so what we are doing it that is the gross sales divided by what we are saying here that is a gross sales you by the weather trade receivables or the accounts receivables trade receivables or the accounts receivables. So, that is for example there their sales are 3000 rupees they are selling in the market for 3000 rupees and there you say that the trade receivables are in

this case if you talk about is a 100 for 100 rupees out of the total 3000 sales 100 rupees sales are on the credit.

If you try to find so it means these sales are 30 times it means that ratio is very, very high. Their total sales are 30 times of the sales their making on credit so it means here if you talk about this ratio which is in terms of the times. So, are you can say that the total sales the amount of the magnitude of the total sale is very large and as a part as a fraction of their selling on credit.

So, this not a very big amount and the company is very efficient mostly their production is going to the final consumers or maybe what they are procuring from the other company that is going to the market to the customers on say cash largely on cash not on the credit. So, and if there is a credit then it is very small amount of sales which is on the credits. So, it means it is a good sign, similarly after calculating this accounts receivables turnover ratio which is 30 times in this case.

If you see the next part next part is the debtors collection period that is collection period if you look at this that was collection period here if you look at the debtors collection period here this that was collection period is how we have to calculate is that is 365 divided by the; if you divide this 365 here we have to divide 365 by 30 times if we have to divide the 360 time 30 time it means it is 30 times so if you can if you divide it so how much it works out that that is almost 12 days.

So, it means their average collection period is 12 days that debtor collection period if you calculate the debtor's collection period here that works out as 12 days. So, it means total sales out of the total says very small amount is on the credit and that credit is also been given by the company for a how many days that is for the say 12 days, 12 days credit period is also not very large if you talk about the Indian average for the average in the Indian manufacturing sector out of the total sales how many are the credit sales you will find that proportion is quite significant.

And second thing you will find out is that they say sales collection period debtors collection period is ranges between 30 to 45 days in certain cases it is up to 2 months also that is 60 days and in certain sick companies for example you talk about that the electronic sector Onida, Videocon there's debtor collection period is sometime you can say up to about say about 3 to 4 months also sometimes it is a 6 month also.

So, that indicates the efficiency of the firm, the firm who is efficient in the production whose product is easily acceptable in the market and who is able to pass on the product on their terms to the customers their credit period will be very, very short and the total sales or the credit sales out of the total sales will also be a very small amounts. So, if you see if this kind of the situation if you find in some company which you are analysing tomorrow in the life.

Then we have to see that out of the total sales how much sales are on credit and what is the debtors collection period so that the first ratio should be which is the receivables collection period or the receivables turnover ratio. This should be very, very high as high as possible you can say and as far as the debtor collection period is concerned it should be the lowest possible period. So, we have to see and there is another way out one of example we will be talked about here that is 12 days weather 12 days good or bad.

There should be some benchmark to compare these 12 days and the benchmark is the industry average and you calculate the industry average in overall in the Indian manufacturing sector. As I just told you 30 to 45 days credit is normally been given by the seller to the buyer or by the one company to the channel of distribution industry average that differs from industry to industry also. May be in the electronics this one month period in the say automobiles there is 15 days period or maybe in the other sectors.

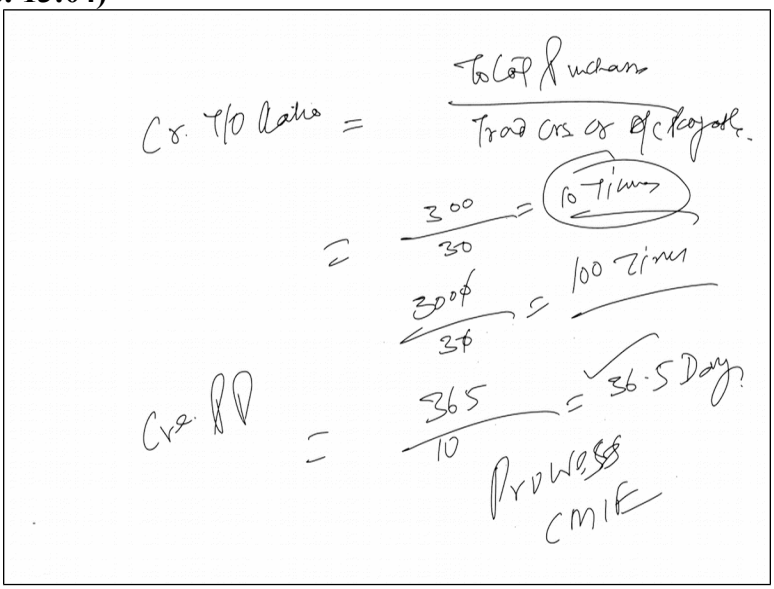
So, that different from sector to sector also so then we have to find out the industry average we have to take the average of that respective industry in which that firm or to which that firm belongs and then find we will have to take a decision say for example you find the industry average is 30 days industry average is 30 days. So, it means if this company is your finding to always hit me this is a sign of efficiency and if it is in this case for completing 5 days in some companies and if it is 12 days so it means this is sign of inefficiencies so we will have to be careful while analysing this ratio right.

Now the next ratio is creditor turnover ratio this is also very, very important ratio creditors turnover ratio is that how quickly the firm is making the payment to his suppliers and this firm who is making the analysis they are going to be their suppliers tomorrow if the company is the selected for granting the credit. So, creditors turnover ratio means first of all it has also to be studied in two parts first part is the creditors turnover ratio which is purchases divided by the

accounts payable or other name is the trade creditors we call it as the accounts payable order trade creditors right.

And the second part will have to find out is that is the creditor's payment period. So, first of all you have to see that out of the total purchases what is the out of the total purchase what is the amount of the purchase on credit and second thing is that to look at workout is the creditors payment period so purchases divided by the trade credits for purchases divided by the trade credits you calculate here

(Refer Slide Time: 13:04)



So, that is a creditors turnover ratio payment being made to the creditors so here we have to take the total purchases they are making total purchases divided by the what was the ratio here total purchase is divided by the trade creditors or you can say that is accounts payable or trade creditors trade creditors or accounts payable. We have to take sometimes people say that we should take the average figure of the accounts payable of the previous year's closing and the current year closing.

But here you can take the closing of one year only that is the year in which you are making the analysis also making the analysis of the past 3 years or past 5 or 6 year then you take the closing figure that at the end of the year how much say accounts payable on the trade creditors were there in the balance sheet of the company and you compare that with the total purchases they have made in the year. So, we will have to find out that say for example the ratio we are finding out here is that is the say again 300 rupees purchase they are made.

And they are creditors if you find here that is say 30 that is a trade creditors for accounts payable is 30, so it means it works out as 10 times. So it means this figure is showing that of the credit purchase as compared to credit purchases their total purchase are only 10 times this is not a very high figure. It means whatever the total accounts payable they have and what about the total purchase a have made they have made total purchase of 300 rupees in a year and out of that say you can call it as a 30 rupees purchases are on the credit.

So it means this is the total purchase are only 10 times for example this figure is 20 times, 30 times, 40 times so we can say that out of the total purchase whatever the total of purchases they have made that is say for example here we take that the figure 3000 and this is 30 so it means how much is this is 300 times. So, it means you can draw a conclusion that out of the total purchase is only 30 rupees out of 3000 rupees total purchase this is us we are taking it and not 300 times but this is a 100 times we have to make this correction here so the sales are 100 times not 300 times so we will have to make it 100 times.

So, they have made it 300 to 3000 now so it is not 10 times it is 1000 times and 100 times there total purchases is only 30 out of 3000 is on the credit it means that credit purchases are not very high. So, it means there is a sufficient scope for this company to buy on the credit from the other suppliers and if the company who is making analysis of the prospective buyer on credit. If they decide to give them the credit I think the sign is that says their credit purchases out of total purchase are not very high so they will be able to pay off their dues on the time.

As and when how much credit period is given by the selling company to the buying company on the due date when the credit becomes mature on the due date buying company will be able to make the payment to the selling company. So, let us see second part of this that is the creditor's payment period. And if you talk about the creditors payment period here you have to again to the that is the creditors payment period is; we have to calculate again have to divide the 365 or you can say that not 365 so you can say it is 360.

If you even take the 360 so or even 365 years total number of days in a year and for example the total purchase a 10 times it means that your payment is there period is that is 36.5 days normally within a month almost little more than a month time they are making the payment to their suppliers. So, then again we have to see that this creditor's payment period is about 37 days. So,

whether it is acceptable not acceptable good or bad again you have to take the decision with the help of industry average.

Or you can see the other players in the in the market who are into the same industry how much credit period they are enjoying and how much day after period they are making the payment. So, they will have to compare that or industrial average is easily available these days. So, we can find out the industry average for example you can refer to the database of the database name is PROWESS and this the database is owned by a company called as CMI Centre for monitoring Indian economy, Mumbai.

So, if you refer to this PROWESS database you will easily find out the industry average of the credit period payment period by the different companies in industry or in the different industries. So, we can compare this figure of 36.5 days with industry average and then we can conclude weather this average coincides with industry average this credit period coincide with industry average it is more than that is less than that or any way we have to decide it we can decide it.

For example we say that other way around if the total sales are not only 10 times but they are 100 time so you have to divide here by 100 with this only because works out as how much 3.65 days or almost 4 days in that case this company must be very good efficient pay master and as and when the sales are miss first thing is only a very small fraction of the total purchases is on the credit and the credit period which they are availing is only 4 days, after 4 days they are making the payment to their suppliers.

So, it means it almost it is a negligible period and you can say that almost a total purchase these are on cash very small fraction of the total purchase is on the credits still there is a scope that they are not fully exhausted their borrowing capacity there is a sufficient borrowing capacity for this company to expect the credit from the supplier. So, we can easily decide what is the picture is like this that they have not 100 times 10 times and their average payment period works out as on their own payment period works out as 37 days 36.5 days.

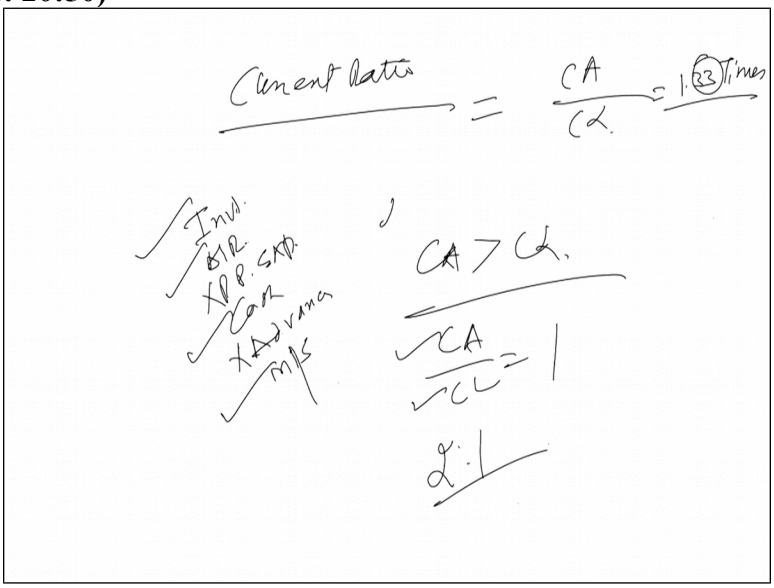
In that case we will have to compare this figure with industry average and try to find out whether this period is acceptable or we have to reduce the period or we have to scope for giving furthermore period. So, in that way the analysis can be done in a way we are making the liquidity

analysis of the borrowing firm or the prospective borrowing firm if they maintain the sufficient liquidity with them then there be no problem for them to make the payment.

But if it is facing a problem that the firm is doing a good turn over there make a good sales in the market and they are having sufficient profits but what extent of what extended what part of their properties on cash that has to be measured here and finally we have to end up by looking at the liquidity position of the firm. And liquidity position is to be studied by these different short term ratios.

Then we have the other ratio is the current ratio and learn one more ratio is the get us Debt Service Coverage Ratio. So, let us see these ratios I think you must have read these ratio somewhere these are not very new special ratios everybody understands if you have some background knowledge of some say liquidity analysis of the firms how to do the liquidity analysis of the firms

(Refer Slide Time: 20:50)



So, current ratio is also one important component in the liquidity part and while we studying the current ratio as you know we compare the current assets with the current liabilities current assets with the current liabilities and if you talk about the standard rule of thumb in this ratio we have the standard rule of thumb and acceptable current ratio should be somewhere nearer to or maybe around 1.33 times right 1.33 times so that is the current asset to current liabilities.

Your current assets have to be certainly more than the current liabilities the current assets have to be certainly more than the current liabilities have to be greater than the current liabilities so that

is the greater part is how much more that is at least one third level of the current liability should be more. Why these ratios do I have discussed with you sometime in the past also that this ratios is by the suppliers of the credit it is desired by the suppliers of material or other interest group also banks who are providing the short term finance to the company.

They are more interested to know about this ratio because they want to make sure that there should be sufficient liquidity with the firm if there is liquidity firm is less likely to default. But if dearth of liquidity with the firm liquid cash available with the firm then there are likely even then they would not intentialy they would not default. But they are bound to default because they have not money to no funds to pay.

So it means they should be something so what we are doing here current assets for example the series of the current assets is like inventory here and then we have the say accounts receivables then we have the prepaid expenses then we have your say cash then we have the advances we have made already we have the marketable securities out the short term investments. All these other current assets and then the current liabilities, so they want this ratio to be more than one and that can go up to 1.33 normal sufficient ratio.

Why because if the current asset this ratio is allowed as current assets to current liabilities ratio is allowed as equal to one in this case but will be there the current liabilities are all the current assets just equal to the current liabilities and if any payment becomes due to be made first the firm will do they will utilise the cash right. Once the cash is fully utilise still they have to have to make payments then they will go for the marketable securities that they will sell of the short term investments in the market and convert them into cash.

Advance deposits are not convertible into cash prepaid expenses are not convertible into cash then you talk about the accounts receivable account receivables are easily converted to cash but somehow that they can get a discount from the bank and then they can easily raise the funds and they less likely to commit a default but in case of inventory this is least most liquid assets. So, it means the banks wanted that as and when our funds will be due to be paid back by the firm for borrowing the short term finance from the bank.

So, for them up the cash is not sufficient marketable securities are not sufficient and say prepaid expenses and advanced deposits are not convertible into cash. So, they should have sufficient

current assets which can be used to sufficiently pay off or efficiently pay of the liabilities current liabilities. So, they want that if and in this case for example if they have no their cash is fully exhausted marketable securities are fully exhausted.

Now they have two assets inventory and accounts receivables, accounts receivables time is given already to the buyer's credit period so they cannot be are supposed to force to payback before the end of the credit period. So, the firm who is help us to make the payment to the other firm they first like to sell the inventory is in the market but anyhow if the inventory is not saleable in the market.

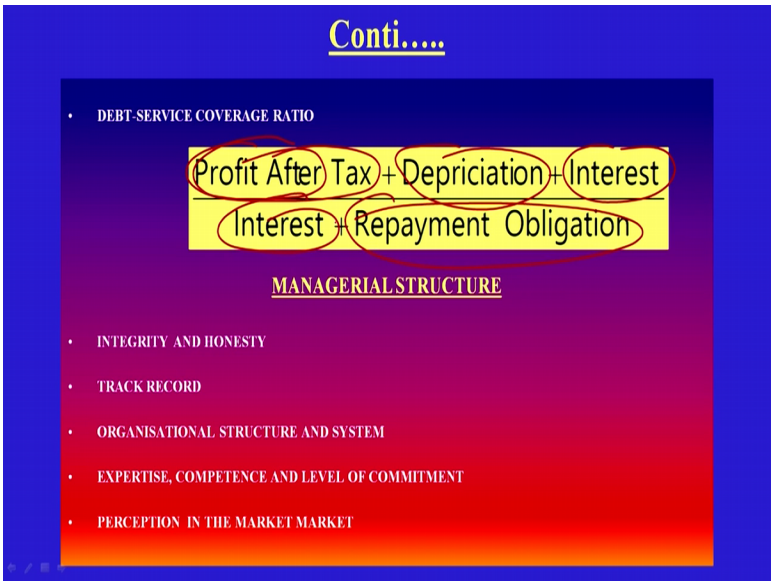
Then they will have to arrange the funds by getting the credit sale bills your accounts receivable bills discounted from the banks which is again a loss making proposition to the paying firm but they have to make the payment. So, they say that after cash and marketable securities if the other asset in the one is not converted into cash other should be converted into cash. But that will be only possible if they are current assets are more than the current liabilities.

So, it should be 1.33 it is acceptable ratio earlier it was 2:1 I have told you earlier also this ratio was to his 2:1 but now in such a competitive scenario with the financial cost is a very important cost for very, very significant cost no firm can be compelled to maintain a level of 100 % more than the current liabilities to maintain the level of that much level of the current assets because current assets least productive they are not contributing anything to the profits.

So, nobody wants to keep the current assets but still you want have current assets but not 2 times its very, very expensive lot of investment will be will have to be made so at least it is 1.33 times. We calculate the ratio if it is around 1.33 times its good if it is less than that that the firm has to be asked first maintain this ratio and then will think about you. And if it is more than that then it is good for the lending firm but not good for the borrowing firm.

Because their cost will increase so this ratio has to be calculated know the further; particular liquidity position of the firm and there will be able to find out whether there will be having the sufficient liquidity or not as and when the payment will become due to be made right. And then we have the other ratio here last ratio is that is the debt service coverage ratio, so it means we are talking about the three things in the numerator.

(Refer Slide Time: 26:54)



We are talking about the profit of profit after tax you are talking about the depreciation and we are talking about the interest and here we are talking about the interest and we are talking about the repayment obligations right we are talking about these 5 things in total 3 is numerator to in the denominator. So, what we have to pay here we have to pay the interest on the loan and we have to pay the instalment of the pay instalment of the principal amount. So, this is the may be quarterly, half yearly or annual obligation of the firm payment obligation of the firm they have to make the payment.

If they are borrowed any money they have to make the payment it may be short term loan or it may be any other loan maybe the long-term also but still it should be analysed. So, it it is a loan part which we have to pay we have to regularly every month we have to pay the interest on the loan and then we have to maybe quarterly or maybe six monthly or maybe annually we have to pay the principal component also. So, this total makes our obligation of the firm to be made which is in the denominator and from where it will be paid it will be paid from the numerator.

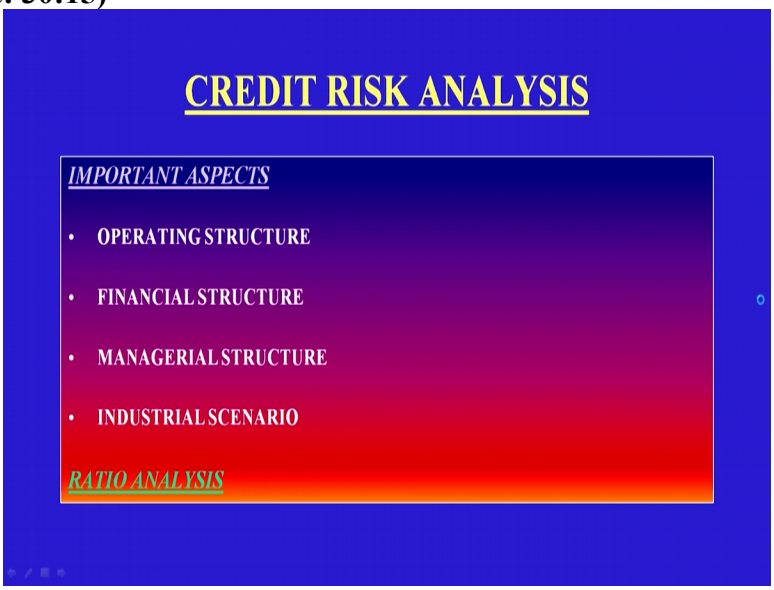
That is the profit after tax depreciation is there with us but it non cash expense. So, it means that money is also very good those funds for which we have debited in the profit and loss account those funds are also not gone out so they can be used in the emergency to service the debt plus the interest which we have to pay so that will be if you have already debited that in the profit and loss account so we will add it back to the profit because profit after tax is calculated after subtracting the depreciation and interest.

If interest is already paid then there is no point making analysis so you will have to find out the magnitude of the funds available before making the payment of interest and obligation and that magnitude can be worked out by summing up the three components profit after tax, depreciation and interest that is the numerator. And in the denominator is the obligation that is the current obligation and the annual or six monthly or quarterly obligations that is a component of the part of the principal payment.

For repayment of the principal and interest both these components have to be compared with the numerator. So, numerator should be sufficiently high normally how much high we talk about this high should be that is minimum 2 times this has to be minimum 2 times so it means this should be in Debt service coverage server DSCR Debt service coverage ratio should be minimum 2 times if it is more than that then it is fine.

But if it is 2 times then if it is minimum 2 times then it is reasonable it is acceptable and there is nothing to worry about because you there maintaining sufficient as a profit after tax they have depreciation fund is also sufficient and interest which they are paying is also not very large. So, means if it is 2 times the numerator is 2 times of the denominator that I think the firm is in a comfortable position and they will be able to service there that as and when it becomes due both the interest component as well as the repayment obligation.

(Refer Slide Time: 30:15)



So, out of measure this total analysis we can draw here one conclusion that if you want to see the make some analysis of the firm for the overall performance of the firm. Because you want to make sure you want to make sure that they are going to the firm this borrowing firm they are

going to stay in the market that firm is a buyable firm that firm is financially say active firm and their operations are also active.

Their finances are also message say nicely being managed effectively being managed and there is no likelihood of possibility that they will become another Nirav Modi or maybe Mehul Choksi or they will be another Vijay Mallya that they want to take the credit from different sources then you enjoy the credit for sufficient period of time and after that wind the business in and run out of the country that should not the situation.

May be a small supplier or a big supplier is the credit security is important for everybody and if you talk about the current security for example the suppliers if you think about in case of big companies who buy the different inputs the suppliers are very small in size say when you say talk about the Videocon they are manufacturing the colour TV to buy manufacturing the colour TV they are not manufacturing anything.

That buy circuit from some source they are buying cabinets from some source and they are buying say other inputs to the TV from other so different sources. So, it means those sources or those suppliers who are manufacturing circuits who are manufacturing cabinets for manufacturing glass part or the screen then very big they are small and their business is a running that they fully dependent upon the final user of their product.

So, they are ready to give the credit but they want one security that whatever the supplies we are making to you we will get back our funds on the due date how much credit period we are giving you how much credit period we are same trying to give you or maybe we are giving you that symbolises should be maintained by the user also so that it not difficult for the supplier also is not difficult for the user also both are working and tandem to full fill each other's requirement.

And if the supplier is giving the supplies on credit and buyers using that and further selling the product in the market and then collecting the dues from the market and making a payment back to the supplier. So, that way it is a Win-Win situation for both. But if anybody defaults in this process then entire symbioses disturb and entire relationship is disturbed and finally miss it will spoil the supplier also it will supply the user is already in the buyer is already spoilt. So it means is it will harm many players in the market.

Because there are many stakeholders in one business here that is why I was talking to that we have to make two broad analysis operator structure of the firm and the financial structure of the firm and with the help of certain ratios we can study the operating structure and the financial structure of the firm and always make a golden rule that look at the operating structure if it is good maybe the and for example both the structures are good operating and financial then do not worry you give the credit.

But if operating is good financial is not that very good then nothing to worry about because the firm will improve but reverse happens that operating structure is poor and financial structure is very good never give any credit to that buyer on credit because your funds will not be safe in that case right. So, this is the point of analysis made here with the help of certain ratios these ratios are not new but the context share was and which we have used is ratios were important.

That how to use this ratios how to analyse this ratios and finally how to interpret these ratios after this operating and financial year analysis of the potential borrowers we will be analysing the managerial structures and industry scenario and how they play the important role in finding out the as possibility of selling on credit in the market that we will be doing but that we will do in the next class thank you very much.