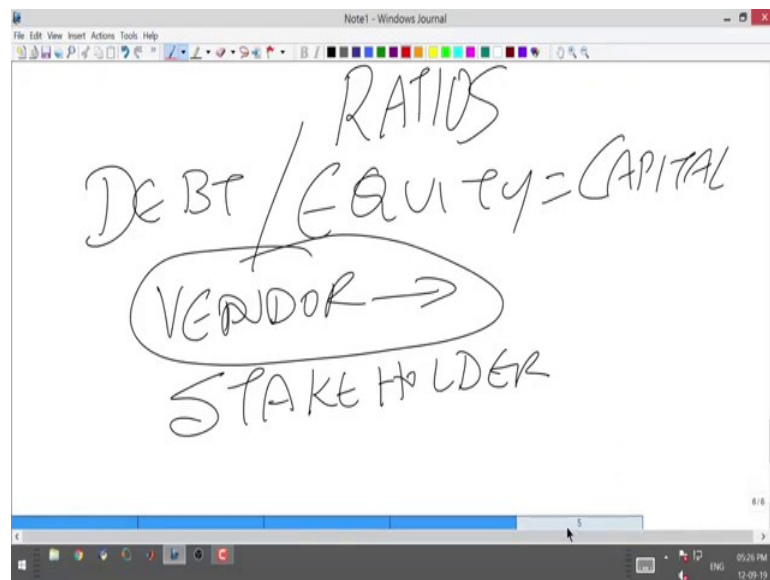


**Decision making using financial accounting**  
**Prof. Arun Kumar G**  
**Department of Management Studies**  
**Indian Institute of Technology, Madras**

**Lecture – 34**  
**Ratios Analysis – Part 2**

Now, basically what did we do out here? All these ratios what we talked about, these are all the bare in the current asset, current liability and the quick ratio what we talked about that is the liquidity, these two liquidity ratios out here.

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These are all what do you call it as a liquidity ratio of current asset and current liability and quick ratio which is also called as asset test ratio. Some places some textbooks will also call it as asset test ratio.

(Refer Slide Time: 00:30)

W-C

$CA - CL = WC \text{ Requirement}$

Buy Cr 30.6

15 Borrow

2017

$\frac{87980 - 32637}{132368} = 0.418$

**QUICK RATIO**

$\frac{79300 - 31602}{154485} = 0.3087$

Beyond this whatever we did how long does it take, for the company to pay? How long does it take for the company to receive? How long does the inventory stay in the company? These are all known all known as basically what do you call it as more than liquidity, these are all known as basically you are measuring what is called as efficiency of the company and these are all known as efficiency ratios out there.

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**EFFICIENCY ASSETS TURN AROUND**

2018

$\frac{820411}{477404} = 1.76$

2017

$\frac{431625 + 523187}{820411} = 1.6$

2018

$\frac{820411}{561044} = 1.46$

These are all known as efficiency ratio. Basically what you are trying to do? You are doing nothing, but measuring the efficiency of the operations of the company out there.

There are two more aspects when we are looking at when we are when we if we so try and see if we can do the efficiency out there. You can look at how well are your assets what do you call it as getting turned around. When I said turned around I mean to say how well are your assets being utilized in the process that is what is the, when I says or utilized out there I am looking at the comparison to the sales out there; I am that is also going to talk about efficiency, we are all going to talk about efficiency.

Let us say if I look at sales out there, my sales out here in this particular company is let us say 820411. All that I am trying to do out here is nothing, but this sales is how many times the fixed asset that I have, average fixed asset I have, average fixed asset that I have. When I say average fixed asset, again there like I what I did in the last examples out here I am looking at the average in sense, so opening and then the closing of the fixed assets out here.

If I look at the opening out here it is 431625 plus about 523184, this is the average out there that gives me I am looking at what do you call it as 820 that is this is equal to 431625 plus 523184 that will give me that is average. This will basically divided by 2 out here, the average out here is basically in this particular case is 477404 and then the numerator is 820411 out there and then 820411 divided by my 477404.

If I am looking at what happens in this particular case that is 1.7 times what he call it as. But is my sales is about 1.7 times my total my fixed assets out there. In this case, I have taken only noncurrent assets out there, that is what we call it as fixed asset turnover ratio, fixed asset turnover ratio out here, fixed asset turn over. You can you will not do it only for fixed asset, I can do it for total assets also, average total assets also out there. Last year how was it, this year how is it.

If you look at last year, the previous year also you can look at it, if I look at the same way I calculate and take the 2000 figures 6 figures out there, I get about 1.6 times is what I actually get out here for 2017, this is for 2018, sorry 2018 and this is for 2017 out there. Do I need to do it only for fixed asset? No, I can do total asset turnover ratio also, TA, this TA is total asset, TO is turnover and then same thing.

All that again I am doing is same thing 411. I am putting at the average of my total assets. I have my total assets out here that is total assets for the last year is 602484. Total assets for the sorry current year 602484, last year is 519605 and then I take the average

of it and then average of it is nothing, but 561044 million out there. So, all I do is 820411 divided by 561044, if I do that I am getting my average asset turnover is about 1.46 times for the year 2018.

So, what I am trying to do? I am trying to look at here measuring the efficiency of this enterprise. When I am measuring the efficiency of this enterprise, how efficiently are the assets being utilized, how efficiently are the fixed asset being utilize, now I have only 2 years I have done. Normally, when you do the analysis out there you do the analysis for a minimum period of 3 to 5 years, less than 5 years, 3 years, 5 years nobody even looks at analysis.

All these ratios so far what I have calculated, what do we do? If I imagine I am doing it for 5 years for the same company. I have the trend for 5 years out there. I can project that, I have the trends for 5 years. I can actually see how it is moving whether efficiency is increasing, efficiency is decreasing, whether it is basically very volatile, whatever is happening, I am trying to see that chart see that graph see how it is moving etcetera out there.

So, basically what we are trying to do? In this case, I am just doing it for 2 years, you take up 3 years balance sheet annual reports. You will get 4 years data, if you have 4 years data just do all these ratios to 4 years data and see how it is moving. You will be able to what do you call it as draw conclusions from that out here. So, I have looked at efficiency out here. I have looked at only for 2018, you can do it for 2017 also, if you basically do that for 2017 also.

I think you will get about again what is the ratio you will basically get out here, I think 1.46, around 0.6, around 0.98 whatever or what is a whatever the ratio you will basically get out here in the process out there. I would see basically you will actually see that happening out here 1.98 around 0.5 whatever it is. So, I am not even getting into calculating further on this.

So, basically what did we do? We have measured all these things basically, what all these things basically here this I did not even calculates, so I am just knocking it out. So, what are we looking at? All these things, I we are just measuring what is called as the efficiency of the enterprise. How efficient is the enterprise in its operations out there? Ok.

Now, we move on further now having known the efficiency of the enterprises out there I need to look at next a couple of other things out here. When I need to look at couple of other things out here I am looking at what do you call it as, if you are what do you call it as a imagine a like for the time being I am just going to insert more pages out here, for me to do this calculation out there.

Imagine, I am looking at more and more of what do you call it as you looked at it from two perspectives, 1 you are a vendor to the organization, number 2 you are what he call it as you are what do you call it as you are looking at measuring the efficiency of this organization. These two what we looked at now, the third aspect what I am going to look at in this particular cases I am going to look at how solvent is your company out here.

(Refer Slide Time: 08:07)

The image shows a digital whiteboard with handwritten notes. On the left, there is a calculation for solvency:  $\frac{100 \times 15859}{425755} = 0.03:1$ . Below this, the number '2016' is written with an arrow pointing to the right. On the right side, there is a comparison of two companies, A and B, across several financial metrics.

	A	B
E	120	60
D	—	60 CM.
PBIT	8	8
Int	—	6
PBT	8	2
Tax Cost	4	1
DAI	4	1

What do you mean by solvency? Simple sir, I if I look at I need to provide capital to the company, I need to provide capital to the company how should I provide? Should I provide it as debt or should I provide it as equity? Now, what is the problem if I provide it as a debt and provide it as a equity? Let us take an example.

Let us take two companies out there. I am going to take two companies out there (Refer Time: 08:36), I am going to take company A and company B. Company A has equity 100 dollars only; company B has about 60 dollars equity out there and the debt for the company A is blob 0 and the debt for company B is 40 dollars, interest rate is 10 percent. Now, there is profit before interest and tax for this particular company out there.

Now, when profit before interest and tax for the company is there what happens in this particular case is let us say both the companies are exactly in the same, performing the same way, earning the same way, everything doing basically the same. And, we will basically see the profit before interest and tax for both the companies are 12 dollars out.

Now, what do I do? I pay interest out there, the interest out there in this particular case is 0, that is 10 percent of 40, 4 dollars is the interest out there then profit before tax PBT in this particular case is 12, in this particular case is 8. Let me take tax at the rate of 50 percent for the ease of for the ease of multiplication only, I will say 6 dollars and 4 dollars out here and then now profit after tax in this particular case is 6 dollars profit after tax in this particular case is 4 dollars out there.

Now, if you actually see this particular thing now I need to know, whether I should invest in equity, whether I should invest in debt, what is the combination etcetera. Please understand, supposing I want to invest in this particular company out there, I want in the in the company, I want to invest in the form of; in the form of debt further debt in the company. If it is company A, I know there is no debt in the company there is perfectly fine I will go ahead and invest. If it is company B, there is already debt in the company.

Now, I need to know whether I can invest further debt in the company or further not further debt in the company. Why debt becomes very important? We will come back to this example also. Imagine I start a business my total capital requirement is 100 rupees or multiples of 1000s you can take whatever, 100 into multiples of 1000. I contribute 10 10 rupees out there, I borrow the remaining 90. Who runs the business? I run the business. Who is the owner of the business? I am the owner of the business. What does that fellow is give me 90? He is only a lender, so he is standing outside and watching how I am performing.

So, what do I do? I have to run the business in such a way that I pay the interest rate. Whereas, what is my interest in the business? My interest in the business is the first recover my 10 rupees what I have put out, 90 rupees he has given me first recover my 10 rupees. Once I recover my 10 rupees out there, then after that what is my level of interest in the business because I have not dug my hand into the business out there. My interest level is basically low that is the debt provider is high and he is the not a decision maker, decision maker is basically I am the decision maker in the business out there.

So, I am not I am trying to say, so you can ask me sir then is it a case that where if debt is higher than equity it is a bad situation. No, need not be it can vary with industry to industry, but normally if you are debt if in such cases what happens? What is the cost of debt? The cost of debt will not be 10 percent out there will be far higher than 10 percent because the interest rate that you will demand on the debt will always change with the quantum of debt out there, the risk or they expected return and same is the case with the equity also.

Suppose, in the same case that has take for that matter, you change the capital structure of this companies, you sorry you need what do you call it as more capital in the companies, you infuse what is called as more equity into more fun into the business out there. When I infuse more fund into the business I will say I am making it, instead of 100 I am making it 120 dollars equity out there in this case instead of this 40 dollars out there, I am borrowing 20 dollars in the form of equity.

Now, imagine what happens? The same thing, here one there is the a new asset I have invested more, but the returns have not started coming. I earn the same kind of return of 12 dollars out there, perfectly all right. Now, what happens? In this particular case this becomes 6 dollars is the interest that I have to pay because I have to pay on the interest on 60 dollars, then this becomes 6 dollars out there, then this becomes what we call it as 3 dollars out there. And then what happen? This becomes 3 dollars out there.

Earlier, what are the equity holder is getting? 60 dollars for investment they are getting 4 dollars. Now, what are they getting? They are getting only 3 dollars. Whereas, the debt holders have not taken any cut in the process. The debt holder continue to get the same 10 percent out there. If you actually see this why does it happen? So, what happens? The debt holder gets his interest and the equity holders risk basically keeps on increasing as debt component in the capital structure keeps on increasing.

In this case, what happened? Debt increased in the capital structure over debt increase in the capital structure risk of the equity holder increases because that fellow is going to get not take a cut at all. Suppose, you imagine there is a recession next year, imagine there is a goddamn recession next year and then none of these companies are doing well and these companies are making only 8 dollars out there. Then what happens? This is 8 and this is basically 4, and this is basically 4 out there in this particular case 8 and then these

fellows get 2 and then what is called as 1 dollar is goes a tax and only the 1 dollar is equity holder gets out here.

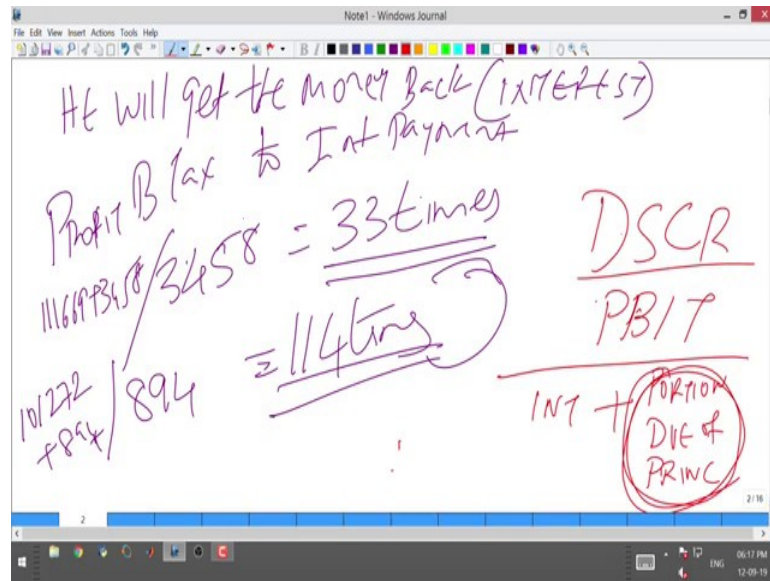
So, what is happening? If there is a recession, if there is a boom period everything falls basically only on the equity holder risk of the equity holder. So, what happens? The expected return for equity holder keeps on increasing in the process. So, there is always a problem, the debt and equity what is the combination, whether I should invest, whether I should not invest, so basically they will always look at what is called as debt equity ratio. What is that the percentage of debt in the company to what is the percentage of equity in their company out there that is what we will basically see that in the process. Let us look at for Maruthi for 2018 out there

Maruthi as a company has a very low debt out there. If you look at my total equity in this particular case out here I am looking at equity and the equity attributable and etcetera total equity in this particular case for 2017 is 425755, and total what he call it as noncurrent liabilities that is financial liabilities borrowings in this particular case is basically 100 plus what is called as non-current liabilities that is 15859 that is a 15859, 100, there are 425755, alright.

Basically, what happens in this particular case since debt is a very very low, it is 0.03 is to 1 out there that is what we see. And you to do 2016 figures also, it is not going to be very different out there; it is not going to because the debt as such in the company is quite low in the process out there. The next aspect as solvency when we look at we, but we basically see in this particular cases what we see is.



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Number 1, what are they, what are they, what are they interested in? That is a, what is a debt provider interested in. A debt provider is basically interested in 1, 1 is what is a debt equity ratio and second is whether he will get the money back. When I say at least the money back I am talking about interest.

So, what do you do? You do look at how many times is the profit before tax and to the interest payment. In this particular case, let us look at what are the financial charge out here. If I look at if I see this particular case there is a financing cost out there that is about 27. My finance cost in this particular case is 3458. Whereas, my profit before what he call it as before interest and my profit before interest and tax at my profit before EBIT, my profit before interest and tax basically in this particular cases that is I am just adding the interest back out here that is 111669 plus 3548; 3458, I am sorry 3458.

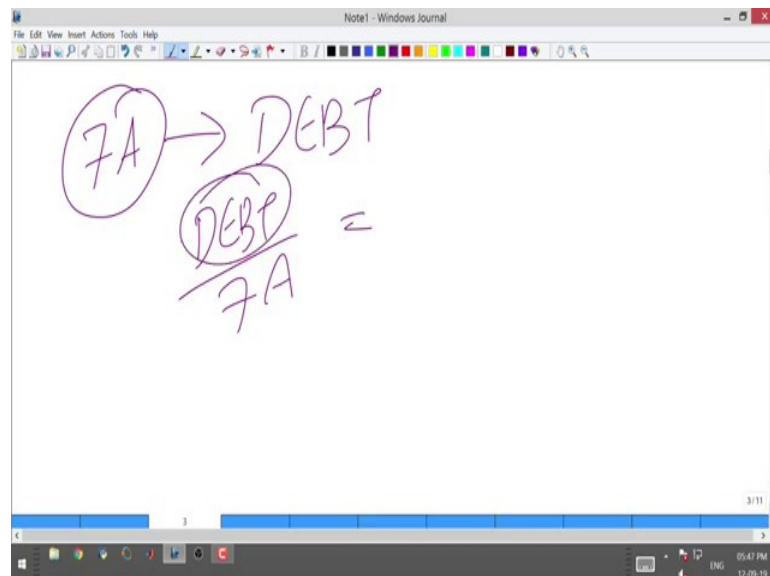
So, this is basically what we are looking at, how well is my interest covered in. This company is as a very low debt, so it basically does not make sense in this particular case that is basically you are looking at I think I have gone yeah 3558, 3458 equal divided by I think; I am sorry, I am just missing out. It is about basically you see that my interest coverage is 33 times out there for 2018. Same thing you can do for 2017 also. If I have to do it for 2017, I already look at what is my interest cost in 2017, if I look at my interest cost in 2017 is it is only 894 was my interest cost out there. What is my profit before interest and tax? Profit before interest and tax in this particular case is 101272 plus 894.

What here? 101272. Now, that is about 102166 divided by 894 that is roughly about in this particular case you see is 114 times out here.

So, I am trying to say? You are in this particular case it actually does not make sense much because your debt component is so low, your interest component is so low what we see out here interest component and debt component are so low in this particular case that your profit is almost 33 times out here it is 114 times, but still it is not a very good sign. It was 114 times in the previous year and it has come down to 33 times in the current year that means, you have done some amount of huge borrowing or there is a huge amount of interest payment that we can actually see this. It was 894 last year it was the current year, it is 35 3458 out there that means, there is a interest payment.

Slowly the burden is increasing. And well, you cannot draw an interpretation based on 2 year statement I want to look at a long term statement and then try and see for 5 years and then see. It is not a cause for what do you call it as something to be alarmed about, but well there is a substantial, there is a red flag there which basically what we will actually see in this particular case out there. You can even do that, in fact, on this particular bandwagon you can even look at the other the other aspect also.

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Rather, what do you call it as my fixed assets are there what part of fixed assets are financed by debt in the particular case. Simple, what I basically do in this particular cases

by debt divided by what is called as my fixed asset in this particular case, I can actually get it. That is I have you fixed assets are financed out of what capital.

Capital is what? Debt and equity; so, I want to know what portion of the fixed asset is financed by equity, what portion of the fixed asset is financed by debt out there. That is all I can do out there, I can actually check that also in the process out there. I am not going to do that, but you guys can try it because in this case it does not make sense because your debt component is extremely small in this particular, in this particular company's case out there.

(Refer Slide Time: 21:19)

The image shows a Notepad window with handwritten calculations. The word "PROFITABILITY" is underlined. To its right, "2017" is written above the fraction  $77326/796060$ . Below this, the calculation  $= 9.71\%$  is written. To the left of this, "NET MARGIN" is written above the fraction  $PAT/Sales$ . Below this, the calculation  $82118/840869 = 9.76\%$  is written.

Beyond there is we move to the next stage what we typically call it as profitability, measuring profitability. When we measure profitability, the first and foremost what we say is we measure what is called as net margin. That is nothing, but my what we call it as my profit after tax to my sales out there. In this particular case, if I have to take this particular that is that margin out here if I have to look at it in this particular case my net income for 2017, 2018 is 82118, my sales is 4 sorry, yeah 82118, my total income in this particular case is 820, basically 820 or 840, sorry, total income in this case because I am looking at total profit. My total profit is 840, 869 that is that is what is a net margin.

You will just express it as a percentage that is a roughly about you are talking about 9.7 percentage out there for 2018, 9.7, 9.7 percentage or 9.7 or 9.76 or whatever you might call it. If I look at it for 2017 out here, I am just going to do that. 2017 what is my net

profit out here? And my net profit is basically 77326 divided by my total sales 796060. So, that is equal to 77326 divided by 796060, that is again, it is again the same thing out here 9.7 percent, it was 9.71, percent this is 9.76 percent out there. That is all the difference what do you actually have. Your margin is around 9 percent out there. That is basically what we basically see in this particular case.

(Refer Slide Time: 23:40)

The image shows handwritten notes on a whiteboard. On the left, the text 'GROSS PROFIT MARGIN' is written above a horizontal line, with 'CORE PROD' written below it. To the right, 'CORE SALES' is written above another horizontal line, with 'MANUF EXP' written below it. Below these, 'GROSS PROFIT' is written. An arrow points from the 'GROSS PROFIT' line to the equation  $\frac{G.P.}{CORE SALES} = G.P. MARGIN$ .

Further to do this in the profitability part of it, I can actually do what you call it as what we see out here.

Student: Can you explain gross profit margin?

Yeah. That is out further in this particular case, if I have to do it out here we talked about the net profit margin, we will also look at what is called as gross profit margin. I am not going to do it, calculate it. We will just see out here.

Gross profit margin is nothing that see net profit is all the income I have taken, all the expenditures I have taken irrespective of other operations, non-operations, etcetera and then finally, arrived at the profit and so on. In a gross profit I am focusing more and more only on basic core production activity. That is I will take the core sales and then I am going to look at knocking of all the core only what do you call it as manufacturing related expenditure. What I get? I get what is called as gross profit. What is gross profit margin in this particular case? Nothing, but my gross profit what I have divided by my

core sales basically gives me what is called as G P margin. I hope I am very clear about it, ok. Now, we move further on this.

(Refer Slide Time: 25:12)

The image shows a screenshot of a Notepad window titled 'Notepad - Windows Journal'. The window contains two handwritten calculations for Return on Equity (ROE). The first calculation is: 
$$\text{RETURN ON EQUITY} = \frac{82118}{425755} = 19.1\%$$
 The second calculation is: 
$$\frac{77326}{370905} = 20.84\%$$
 The window also shows a standard Windows taskbar at the bottom with the system clock displaying 05:53 PM on 12-09-19.

Further on this, we will look at especially when I talking about profitability you look at return on what do you call it as equity. What is the kind of return the equity shareholders are basically getting out here that is what we are more interested in knowing also. Simple, what is the profit? What is the profit that belongs to equity holder? The net profit belongs to equity holder; that is what is the net profit? 82118 is a net profit. And what is equity holder total? That is total shareholder's funds if I look at out here, total shareholders fund, total equity in this particular case is given the net equity or the total equity in this particular case is given 425755.

So, again explicit as what we call it as a percentage in the process out there. When you express it as a percentage out there it is return on equities about 19 percent if I am not wrong in this particular case. That is let me also verify once again 82118 divided by 425755 that is equal to yeah around 19.28 percent or 19 percent out there. I can even do it for the next for the next for the previous year also, 2016 also out here. If I look at 2016 what is my return out here my return in the for 2016 is about 77326. And then what is my capital? My capital is basically in this particular case is about 37. I am just looking at a 370905 that is about roughly about 20.84 percent.

So, you have margin return equity has dropped, I mean not very significant it dropped by a percentage out there. Well, you have to keep watching, you have to keep the trend, you have to see the trend for 5 years and then only basically decide. You cannot just take a decision based on 1 person drop in a 1 year, if I start taking decisions on that then all everything is basically going to go wrong out there.

(Refer Slide Time: 27:14)

The image shows a Notepad window with handwritten calculations. On the left, there are three terms:  $ROA(F)$ ,  $ROA(F)$ , and  $ROTA$ , each underlined. To the right, there are two division problems. The first is  $\frac{82118}{602484} = 13.62\%$ . The second is  $\frac{82118}{523184} = 15.69\%$ .

You can look at what is called as return on assets. I can look at return on total assets, I can look at return on what do you call it as fixed assets or (Refer Time: 27:38). What do you mean by return on asset? Let me do it for total assets out there, return on total assets. When I do it return on total asset all that I have is what is my return out there in the process. What is the total asset in the company? The total asset in the company is what you call it as 684484. I am doing what do you call it as, I am basically in this particular 602484 that is about my return on asset is about 13.62 percentage.

So, what is it signify? On the asset what do you have invested? What is a kind of return you have basically earning? That is what it basically signifies. On the return, on the asset that you are invested what is the kind of return that you are earning; I can do it same thing for fixed assets also 82118 divided what is called as my fixed assets out there. I did fixed asset turnover at that stage we are looking at what you call it as my fixed assets out there. My total fixed asset non-current asset 523184. It is about 15.69 percent is what we get out here.

So, we can actually see this. Your margin is slightly dropping that is where the total assets what you have, we are fixed total assets what do you have or fixed assets what do you have. We looked at fixed asset here; we looked at total asset here. So, what is happening? Your margin is basically dropping slightly in the process that is year on year. As year going your margin is dropping that is not a stage alarm at the stage again you have to keep looking at it for at for quite some time and then basically you can basically decide in the process out there.

The last aspect what I want to do when we talk about return is what he call it as return on what he call it as investments out there, last but not one.

(Refer Slide Time: 29:34)

The image shows a whiteboard with handwritten notes. On the left, there is a diagram with 'ROCE' at the top, crossed out with a double line. Below it, 'ROI' is written and also crossed out. A vertical line descends from 'ROCE', with 'E' written to its left and 'D' written to its right. On the right side of the whiteboard, there is a calculation for the year 2018. The year '2018' is written at the top and underlined. Below it, the calculation is: 
$$\frac{82118 + 3458(1-T)}{425755 + 15959} = \frac{106316}{441714} \approx 24\%$$
 The year '2017' is written to the left of the calculation and underlined. The number '3458' is circled, and '(1-T)' is written next to it.

Now, the next basic important thing what we looked at is what we call it as return on investment or what we call it as return on capital employed. Where is a capital employed? What do you mean? We mean one is equity an another is basically what we call it as typically debt out there. Let us look at it. For example, for 2018 let us calculate. What is a equity out there in 2018? 2018 equity is 427755, 425775, 425775.

Now, what is a return for these equity fellows? The return for the equity fellows is 82118. Where is a capital employed? There is a debt component also in the process. What is the amount of debt out there? Debt out there in this particular case is 15859 plus 100, 15959 is a debt component. Now, is there a tax out there, now is there what is the debt component fellows return. There debt component fellows have to get a return, and

what is that return? That return is nothing, but what do you call it as typically the interest cost out there, it is always mentioned as finance cost 3458 is the interest cost.

So, what have you looked at when I say return on investment? I am looking at this equity, equity holders return I am looking at debt and debt holders return. But there is one small issue out here; it does not end out there. I will go back to the example what I basically constructed for you at some stage out here; I am just checking it out.

(Refer Slide Time: 31:44)

SOLVENCY  
DEBT/EQUITY  
 $\frac{100 \times 15859}{425755} = 0.03:1$   
 $\frac{2016}{6/100}$

	A	B
E	100	60
D		40 @ 14%
PBIT	12	12
Int		4
PBT	12	8
Tax cost	6	4
PAI	6	6
		$\frac{6 + 4(1-7)}{60 + 40}$

Yeah. This is example. Now, if you look at let us go back to the old example, let us go back to the old example out here. Let us go back to the old example out here and then let us say 12 dollars out here and then let us say I am going back to the old example, 12 dollars interest is about 4 dollars and then this is 12, and then this is 8, and this is 6, and this is 4, and this is 6, and this is 4. Now, imagine you are an investor, when you are invest in which company will you invest company A or company B?

And you are investing for the core activity. If I am investing for the core activity, if I have to invest between company A and company B normally what will happen is at the first look we will say oh company B is better or company A is better etcetera. Because company B has what is called as a 4 dollars return on a 60 dollar for a 60 dollar equity, 4 by 60. What is the return on equity? You will basically say it is about 6 percent out there. Whereas, this fellow has about, I mean both are almost giving you the same thing you



know 006 (Refer Time: 33:00) tell that is slightly more marginally more in that case out there.

But as far as I am concerned I will say both the companies are performing the same. And what is the return on capital employed? A return on capital employed in company A is 6 dollars, return on capital employed our investment in company B is 60 plus 40 is the capital 100. What is the return? Return is 4 dollars per equity and 4 dollars per debt. So, return is 8 dollars, 8 by 100 out there, whereas, return capital out here in this particular case is only 6 by 100 out here and then whereas, it is 4 plus 4, 8 by 100 out here. So, you will say company B is better.

But in reality if you actually look at both, if I as an analyst if I am looking at I will say both the companies are exactly the same, there is no difference. That extra return we are getting here we are getting 6 dollars, here we are getting 8 dollars out there, that extra return you are getting purely because not because of the efficiency in the operation of your business, but purely because of what you call it as the capital structure decision that you have made. What is that goddamn capital structure decision? Please understand.

Capital structure is nothing, but you have to decide what is the percentage of equity and what is the percentage of debt in each if in the capital structure in the capital. This company has taken 100 percent equity, so they are getting this. This company has taken some debt out there because this company has taken debt they are getting, they are saving what do you call it debt interest is always pre-tax because they are paid for dollars here they are paying less tax out here which you can basically see in this particular case out there you can actually see it. They are paying only 4 dollars.

So, what is happening? That decision is not what is called as productivity. Productivity decision yielding both the entities only same called dollars out there, that is a capital structure decision because of which you are paying efficiency. Now, your argument will be sir then you can go in for 100 percent debt. Please note, as I told you earlier if debt increases in the equities capital structure the cost of equity will keep on increasing. The risk of the equity holder increases, if the risk of the equity holder increases their expected return will also keep on increasing which we learn in the next course out verify out, which you learn in the next course if I often.

So, what is happening? So, you will have to look at an optimum combination of the debt and equity capital to maintain your cost of capital to be the lower. There is a debt also has a cost. What is the cost here? 10 dollars in this particular case. Equity also has a cost equity? Cost is what is measured by expected return of the equity holder expected return of the equity holder. So, there is a cost for both the fellows.

Now, some combination of these equity ended will always lead to what is called as your lower what is called as the bottom most cost of what do you call it as capital. At some stage if you have a higher equity and debt, your cost might be something else because equity is costlier. If you have very high debt then also your cost of debt and cost of equity will be very very high. You will have to have some combination of these equity and debt. How do you find out this combination? We will worry about it later. Where you will have to have some combination of this equity and debt, where your cost of capital is at the lowest out there.

So, what are we trying to do? As an analyst when I am comparing these two companies, evaluating these two companies at which is better I am comparing forward for the core operations only and not for the capital structure decision. So, when I am comparing for the core operations only what do I have to do? When I have to look at comparison out here in this case on these 4 dollars you are not paid tax. So, I will take out that as that advantage what you have on the by not paying tax out there.

So, that for me it becomes comparable as an analyst out there. As an analyst it becomes comparable for me that is what I do. In this particular case, on this debt what you have taken what interest what you are paid, you have not paid tax out there. So, if I am a 100 percent equity financed company, 100 percent equity financed company what happens? This advantage I will not have. I everything will be only here this portion itself will not be there. That means, what? I would have paid tax on this because I am not paid tax out here.

In this particular case, the company's case it is what is called as the tax rate is about 30 percent out here is what I have taken 0.3 and then this basically gives me what do you call it as a I have basically calculated out here, there is basically if you if you actually look at out here in this particular case you can actually calculate out here 8. Basically, what here? 82118, ok, 3458 into 0.7 plus 82118 that is about 106316 and then my total

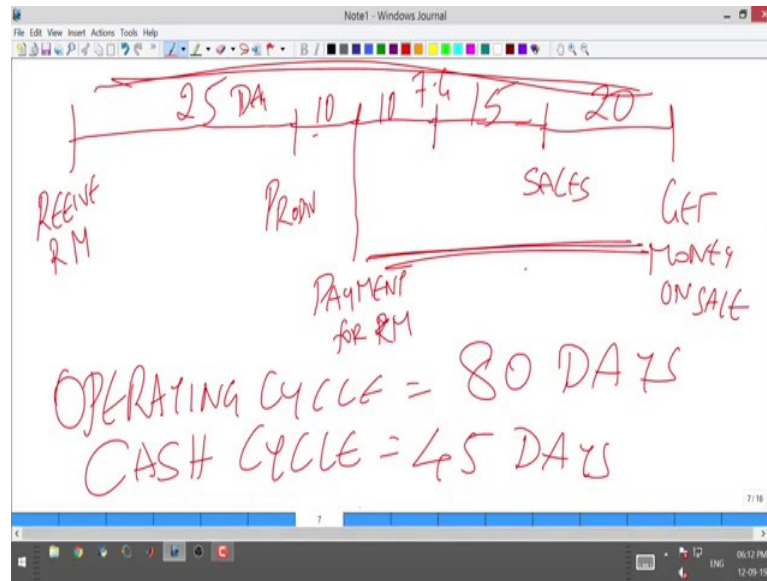
capital in this particular case is whatever it is 15959 that is about 441714, 106316 divided by 441714 that is basically it is about return on investment is about 24 percent out there is what you basically see out here.

So, what have I done, I am repeating. I will go back to the same out here. So, what have I done? This, on this 4 dollars which I have knocked off as interest out here I have not paid tax. I am paying tax only on this particular aspect out here, I am paying tax only on this particular aspect out here, I am paying tax only on here. So, what do I do? In this particular case, if I basically see this in this particular case out here I pay tax only on this. I have saved on tax out here because debt interest is always pre-tax, please understand the debt interest is always pre-tax.

So, when I have to compare these two companies I will take this profit, this is the equities profit I will take this 6 by 100 and here I will take this 4 is for 60 dollars out here with the denominator. In this particular case, if I have to do this out here that is 6 dollars out here I will say 4 dollars out here; I am I am looking at what he called this 6 dollars is basically for the 60 dollars equity out here plus what do you call it as this 4 dollars what I am there is for 40 dollars equity out here. Whereas, but these 4 dollars I have not paid tax, so I have to knock down the tax part of it I would take because only then it will comparable, only then it becomes comparable out here and that is exactly what I have done out here.

That is this is debt interest and this sorry, equity dividends out there profit after tax which goes to equity holder and by equity on debt out here and there is a debt interest on that I have saved on tax that is the in this particular companies (Refer Time: 40:11) it is about 30 percent out here, and then your ROCE or ROI is about 24 percent out there. You can do it for 2017 also and then basically compare out there. This basically ends what you call it as my what of my ratios out here. Then in addition to these I need to talk about only two basic aspects out here.

(Refer Slide Time: 40:29)



Now, what happens out here in an organization? You basically what do you call it as there is a point when you receive raw material from the time of receipt it is there in the godown for some time and then it gets issued basically for what is called as production. Normally, you have a little bit of time and then at this stage basically what happens, the payment for raw material purchases comes in. Then, you have it gets what you call it as finished goods get ready, and then basically it why the it next stage basically what happens is there is sales that happened out there again on credit. And after quite some time is when you get money on sale out there.

Imagine, I receive raw material until the time it gets issued for production in this particular case it is 25 out there. My entire production to conversion out here in this particular case is about what happens is production process out here before the payment comes in is about 10 days and this is on 10 days out here. From the finished goods from I sale that takes 15 days and then it takes another 20 days out here, that is I receive the goods I issue for production 25 days is I have reach and then when the production to finished goods is about 20 days that is 10 and at the at the end of 10 days payment falls due on everything. From finished goods to sale it takes 15 days, from the sale to receiving the money it takes 20 days.

Now, what is the operating cycle of this company? Operating cycle of this company is that the entire length is operating cycle. Operating cycle of this company is 25 plus 10,

35; 35 plus 10 is 45; 45 plus 15 is 55 60; 60 plus 20 is 80. The operating cycle of this company is 80 days. There is also the next aspect that is what is called as cash cycle. If I look at cash cycle what is the money that is getting blocked. Cash cycle is 10 plus 15 plus 20; 20 plus 15, 35; 35 plus 10 is 45 days is basically what is we call it as the cash cycle that is only this period where the cash is blocked out there whereas, operating is the complete period out there and operations are there and this is what we call it as a cash cycle. Am I with you?

So, to quickly do a recap of whatever we have done so far and then let us sort of try and see if we can wind it up better today um. In the sense; however, we started off with and let us see. We started off with what do you call it as the ratios out there. I started talking about debt equity, I started of talking about vendors out there, then basically we went into what is called as measuring the liquidity of the enterprise. When we talk about liquidity of the enterprise we talk about current assets and current liabilities of the enterprise out there, and that is what basically we see what is called as current assets and current liability.

A better efficient way of measuring the liquidity is also what is called as quick ratio out there; that is what is called as all the current assets minus the inventory and I have explained why minus the inventory out there. That is one way we look at. The third basic aspect is we are looking at basically measuring what is called as the efficiency of the organization. When I am measuring the efficiency of the of the activities out there, I want to know how long does it take on an average for you to pay as well as how long does it take on an average for you to receive. In this particular case, we are looked at received.

What? How do you do that? Whatever is the sales what is the average sales per day is what I have calculated. What is the average debtors you have is what I have calculated. This average debtors is equivalent to how many days sales. This average debtors is equal to how many days sales is what I have calculated out here. And then the same thing, similarly I have done it for payables also. That is I have to require what is your average material consumption I have looked at your cost of production out there, and then looked at what is your average material consumption.

I have looked at what is your average creditors in the books out there and these average creditors whatever you have is equal to how many days production out there and that is what we got. In this particular case, we found that you have a lot of creditors whereas, you do not have debtors that is you basically buy on credit and then sell less on cash out there that is where your current asset, current ratio itself is a little skewed, that is you have a larger current liability as compared to your current assets out there in the process.

The same thing we looked at as far inventory also, how long does the inventory stay that day also talks about efficiency. If they longer the inventory stays then their company is not efficient, the lesser the lesser time the inventory stays efficiency is higher that is what we calculated for this. Then, we look at turn around, turn around ratios or turnover ratios. We looked at how many times is your fixed asset, how many times your total asset getting turned around in the company. Higher the turnaround better it is, that is better utilization is it is. Lower that are now; you might ask me one question these are not standardized ratios.

Please understand these standardized ratios well textbook might give you, but these ratios will vary with industry to industry and company's policy to policy. Very simple, sir. If you look at asset turnover ratio for a asset light enterprise that is a company where the assets are very very less, it will be in 100 times etcetera, few 100 time. If you look at for a refinery which is very asset intensive it will be less than 1, it will be less than 1 also initially because it can be asset intensive that is there is a huge that is the type of that industry, so it varies with industry to industry also. Let us not even get into that particular aspect out there.

Then I looked at the profitability I look at the net margin, simple margin out there that is profit by your sales out there. I looked at what is called as after that I basically went on to look at what is called as your gross profit margin also I sort of looked at out here. And yeah, I looked at what is called as your gross profit. I explained what is the gross profit and I looked at your gross profit margin also in the process.

Then beyond that, we looked at return on equity out there. On the equity what is a kind of return. Then we looked at what is called as return on total asset return on fixed asset also out there and then we moved on to what is called as calculating return on what do you call it, as we looked at what do you call it as I am sorry; I think I have got to figure it

out where it is. I looked at what is called as looking at you are return on capital employed or return on investment this is there else try to keep out of it. I explained that 1 minus tax out there. We also looked at debt to equity ratio. We also looked at what is called as how many times how well is interest covered out there in the process.

There is another aspect they will look at this phase what is called as DSCR Debt Service Coverage Ratio. Instead of this what do you say whatever is the profit before, what is the profit before interest and tax divided in this particular case, what did you take? You took only the interest, I will say the interest plus the portion of the principal that is due, portion of the principal that is due that is if I borrowed 10 1000 crores and every year I pay 1000 crores out there for the next 10 years that is their portion; 10 1000.

This year what is that? In this particular year, the 1000 crores will come and 1000 crores will basically come in as a portion. That is if the profit sufficient enough to pay the interest that is due this year plus the capital repayment that is due this year. That is what is called as Debt Service Coverage Ratio DSCR out there.

Please note all these ratios are standalone not very effective for you, it does not signify anything. All these ratios you will not a calculate for a period of 4 or 5 years out there, then look at the way it is moving, is it moving in a uni-direction positive direction or a downward direction or volatile, etcetera, etcetera, etcetera out there. And then try and see many of these that is where you will basically take this is out there. I have tried to workout examples with Maruthi (Refer Time: 49:27). I suggest, what I suggest out here is pick up any company's annual report out there.

Pick up at least 3 years annual report out there, that is how you will have 4 years data or 4 years annual report you will have 5 years data. Calculate all these ratios. Make interpretations. If you have doubts post a doubts on the on the what do you call it as on the chat box out there and one of us will respond either I will respond or my TA Pradeep will respond out, ok.

I hope there was a value addition. I hope there are some learning as far as this particular course was concerned. I hope there was at when you, right from the time you began taking this course till this, till this date there has been some value add that is what I would expect. Thank you. Thank you for watching.

Thank you.