Financial Accounting
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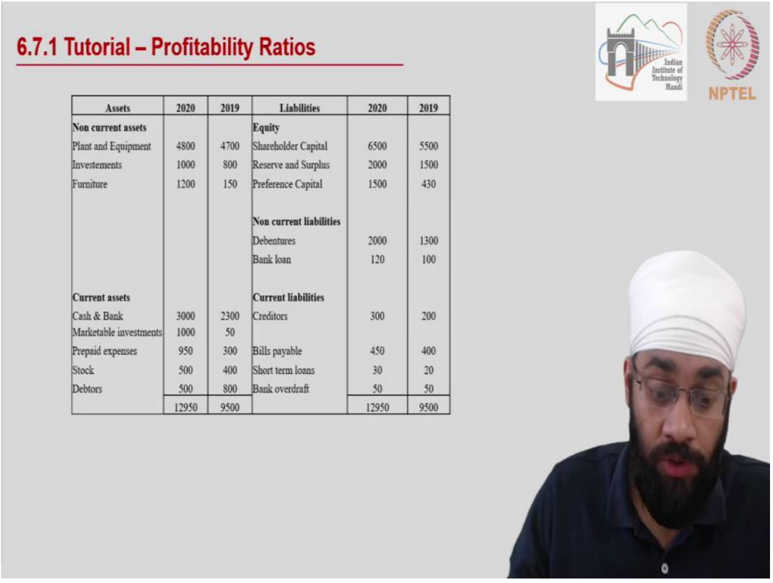
Lecture – 76
6.7 Tutorial – Profitability Ratios (Part 1)



Assets	2020	2019	Liabilities	2020	2019
Non current assets			**Equity**		
Plant and Equipment	4800	4700	Shareholder Capital	6500	5500
Investements	1000	800	Reserve and Surplus	2000	1500
Furniture	1200	150	Preference Capital	1500	430
			Non current liabilities		
			Debentures	2000	1300
			Bank loan	120	100
Current assets			**Current liabilities**		
Cash & Bank	3000	2300	Creditors	300	200
Marketable investments	1000	50			
Prepaid expenses	950	300	Bills payable	450	400
Stock	500	400	Short term loans	30	20
Debtors	500	800	Bank overdraft	50	50
	12950	9500		12950	9500

This is a tutorial on Profitability Ratios. We are going to use the balance sheet and the income statement to calculate the profitability ratios which we discussed in the last video.

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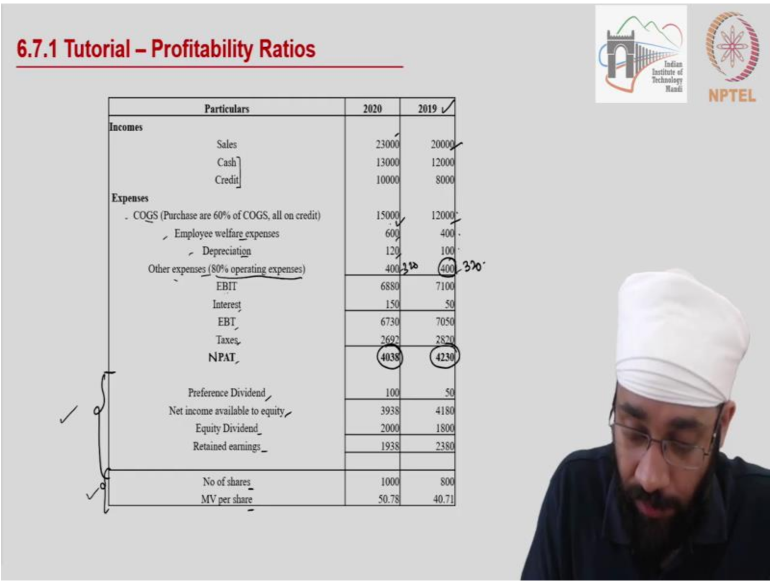

Particulars	2020	2019
Incomes		
Sales	23000	20000
Cash	13000	12000
Credit	10000	8000
Expenses		
COGS (Purchase are 60% of COGS, all on credit)	15000	12000
Employee welfare expenses	600	400
Depreciation	120	100
Other expenses (80% operating expenses)	400 320	400 320
EBIT	6880	7100
Interest	150	50
EBT	6730	7050
Taxes	2692	2820
NPAT	4038	4230
Preference Dividend	100	50
Net income available to equity	3938	4180
Equity Dividend	2000	1800
Retained earnings	1938	2380
No of shares	1000	800
MV per share	50.78	40.71

Let us look at this income statement. As I said, you should be familiar with this format. You have sales given for two years. The sales have been then categorized into cash sales and credit sales. You have the cost of goods sold, you pay for employee welfare, depreciation, all the other expenses and then you are left with, Earning Before Interest and Tax. I hope you are now familiar with this concept of EBIT. You pay interest out of the EBIT, then you are left with only EBT, Earning Before Tax. Then you pay taxes and you are left with net profit after taxes. You can also call it NPAT or PAT. Again, a standard term. Out of the net profit you pay preference dividend first, as discussed earlier, and then you have the net income available to the equity shareholders. Out of that you pay the dividend to equity shareholders and retain some earnings. Memorize this format. This is the sequence in which these calculations are done in the income statement. In the preparation of final accounts, we discussed only till the calculation of net profit. But now, we have a new section here in which we are talking about distribution of dividend to the preference shareholders and to the equity shareholders and finally, retaining some amount of profit which goes into the balance sheet. And, then you have some more information which is not necessarily part of the income statement. Number of shares is given and market value per share is also given to you. So, this is the format into which the income statement is shown to you. We have looked at the first section for the reliance industries limited, but I have not shown you the second section about the dividends being declared and so on. I will do that as well, shortly.

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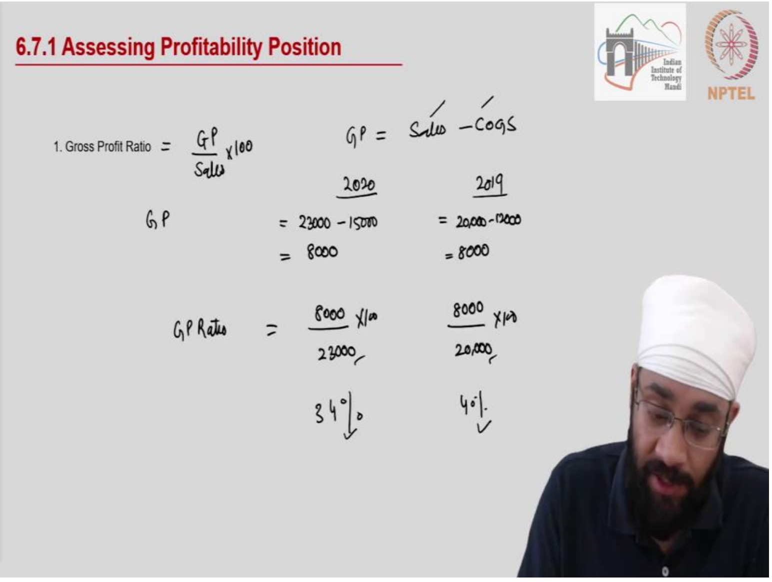

Let us get started. We are going to begin with the gross profit ratio which is equal to gross profit divided by sales into 100. Let us go back here: sales are 23,000, gross profit has not been given. When we prepared the account format of profit and loss statement, we worked out the amount of gross profit. However, in this statement you do not see any amount of gross profit; there is only EBIT and then EBT and net profit after taxes. Not to worry, we know how to calculate the gross profit. The formula for gross profit is equal to sales minus cost of goods. Simple as that. Both these numbers have been given to us. We are going to calculate gross profit for both the years 2020 and 2019. So, sales are 23,000 and cost of goods sold is 15,000. On the other hand, sales are 20,000 and cost of goods is 12,000 for 2019. This gives you gross profit equal to 8,000 and in the other year you have the gross profit equal to 8,000 as well. There you go. Gross profit has been calculated. Now, we have to divide this by sales. So, 8,000 divided by the sales which is 23,000 and you have 8,000 divided by 20,000. This is the gross profit ratio in the 2 years. All we have to do now is to calculate these numbers and this comes out to be 34 percent. So, 34 percent, you have to multiply this by 100 for both sides. Then you have 8,000 divided by 20,000. This comes out to be 40 percent. What we have learnt here is that the gross profit in the previous year was 40 percent of the sales. However, in this year it has dropped to 34 percent: gross margin has dropped by 6 percentage points. It is going down, cannot be a good position to be in, you need to go up not go down. We do not know the nitty gritties, the details of what business this is and what were the reasons. The purpose of this exercise is only to manually calculate the things, to get a feel of how these indicators are going to be calculated. Then we will get into more in depth discussions as well later on. So, the gross profit ratio has been calculated.

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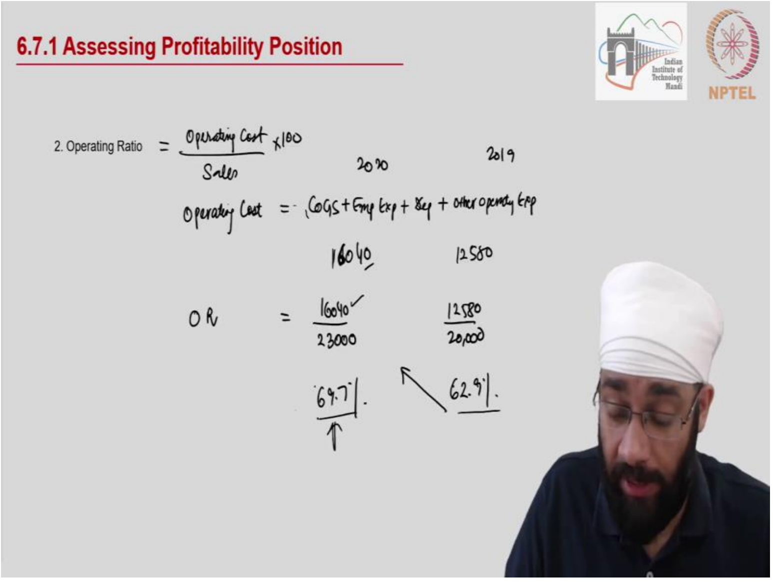

Let us move on to calculate the operating ratio. The operating ratio, as we know, is equal to operating cost. So, operating cost divided by sales into 100. Now, we have to figure out the amount of operating cost for the 2 years. Operating cost for 2020 and 2019. So, how do we get two operating costs? Let us look at the income statement here. Operating cost will include COGS for sure, employee welfare expenses, depreciation is also an operating expense, plus you have other expenses, and it says 80 percent of other expenses are operating expenses. It means you have to just get rid of 20 percent of this 400 and you have your operating cost.

Operating Expenses = COGS + Emp Welfare Expenses + Depreciation + Other Expenses

For 2020 we have 15,000 plus these 600 plus 120 plus 80 percent of this is going to be 320. So, 16040 is the operating cost for the year 2020. Likewise, we are going to calculate the operating cost for the year 2019. I have again 80 percent of this to be taken which is 320 and I am going to add 4 items again. So, this comes out to be 12580. You have the operating cost for both the years. All you have to do is to divide this by the sales. So, the operating ratio is equal to 16,040 divided by the sales, which was 23,000: I remember it from the previous calculation and 20,000 in this case. All we have to do is calculate. So, 16,040 divided by 23,000 comes out to be 69%, 69.7 % and 12,580 divided by 20,000 comes out to be 62.9 %. The operating ratio actually improves from 2019 to 2020, we have increased the operating cost ratio. So, actually this is not operating profit, this is operating cost. You have improved it means that the expenses have gone up actually. So, operating costs have increased. This is not a good situation to be in; you want to reduce your cost. In the previous ratio, gross profit is going down; in this case the operating cost is going up. So, something is happening in this business which is leading to an increase in the cost, reduction in the gross margin.

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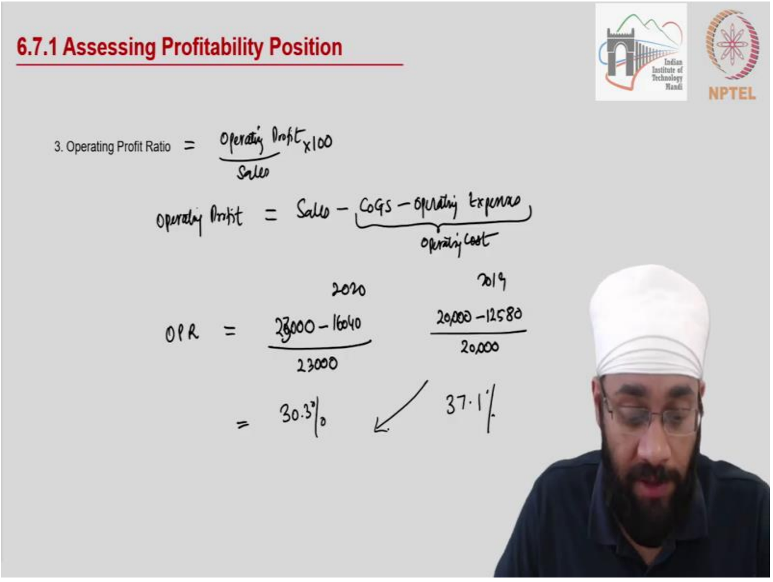

Let us go to the operating profit ratio. The operating profit ratio is equal to operating profit, of course, divided by the sales into 100. The easiest thing to do is 100 minus 69; 100 minus 62 and you have the operating profit ratio. But, to make sure that if you do not have those numbers how do you calculate the operating profit, we have to figure out operating profit and operating profit is going to be equal to sales minus the cost of goods sold minus all the rest of operating expenses. Luckily for us we have already done these calculations. This is the total operating cost; we have already done this. And, we know for 2020 and 2019 sales figures are 20000, 23000 and 20000, and we need to take out the amount of operating cost. So, operating cost can be taken from here. Operating cost is 16040 and 12580 and, then you have the operating profit. So, operating profit ratio is going to be equal to this divided by 23000 here the sales, and 20000 the sales here and when you do the calculations the numbers you are going to arrive at are going to be 100 minus this, of course. So, this comes out to be 30.3 percent and in the case of 2019, this comes out to be 37.1. So, this is 38 for yeah, that is right. 37.1 percent. So, that is how you calculate an operating profit ratio for a company. Here operating profit is going down, not a good situation to be in. We have seen that gross profit is going down; operating cost is going up, and operating profit, of course, has to go down.

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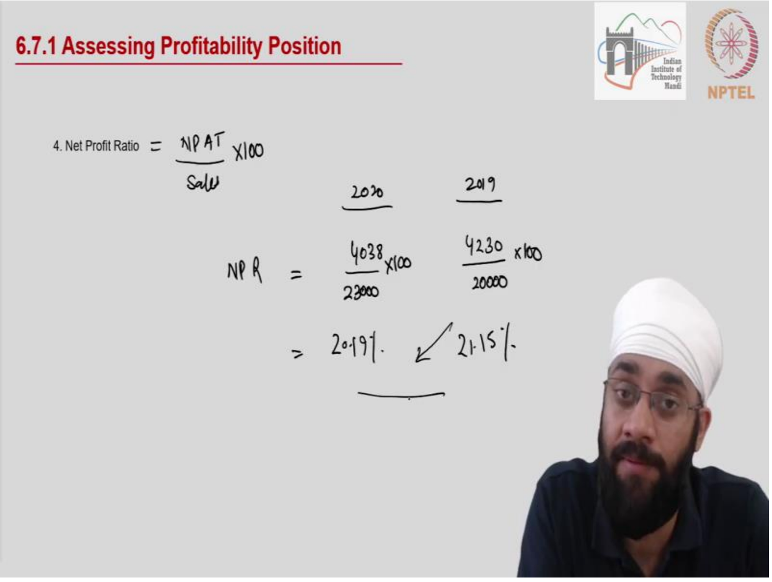

Let us now look at the net profit ratio for this business. Net profit ratio is equal to net profit after taxes and divide this by sales, multiply by 100 and you have the net profit ratio. For 2020 and 2019, we have to figure out the net profit ratio. Let us go to the income statement. Net profit is 4038 and 4230: divide this by sales. Now we know the sales by heart, 23000 and 20000, multiply this by 100 and 100 and we have a net profit ratio. The ratio comes out to be, let us use the calculator, 4038 divided by 20,000, 20.19%. And 4230 divided by 20000; this comes out to be 21.15 %. The net profit is going down, not significantly, but by a small number. However, we do not know what the units are; if the units are in crores, then even one percent makes a difference of lakhs.

So, you know the crux is that the net profit is going down. To sum up, till now we have gross profit ratio which was going down, operating cost ratio going up, operating profit going down, but finally, the net profit ratio is not going down by as much as the other profits, the operating profit and the gross profit are going down by.

So, let me stop here. These are the four first four indicators and we learnt how to calculate these indicators. In the next video I am going to continue the discussion and go to the fifth indicator and using the same income statement balance sheet we will do the calculation. I will see you in the next video.