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**Lecture – 86**
**6.16 Practice Problem – Interpretation of Ratios**

Let us do another practice problem. In this practice problem, we are going to interpret the ratios.

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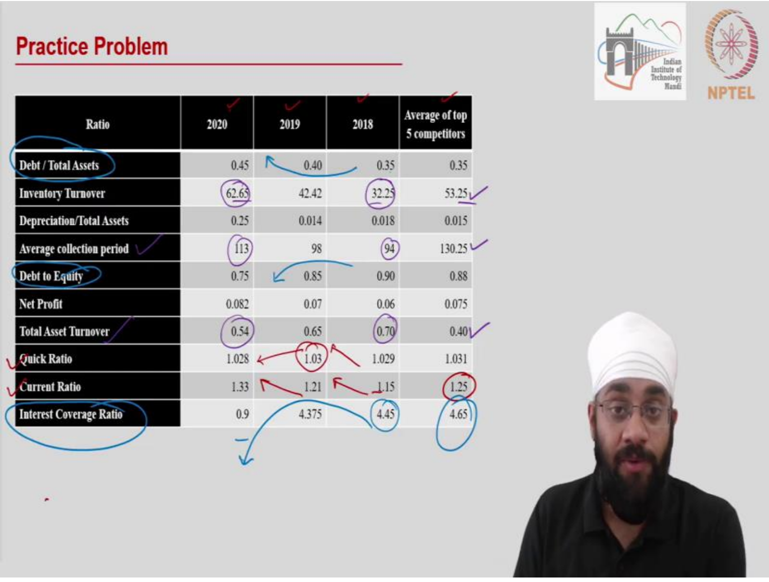


| Ratio | 2020 | 2019 | 2018 | Average of top 5 competitors |
|---|---|---|---|---|
| Debt / Total Assets | 0.45 | 0.40 | 0.35 | 0.35 |
| Inventory Turnover | 62.65 | 42.42 | 32.25 | 53.25 |
| Depreciation/Total Assets | 0.25 | 0.014 | 0.018 | 0.015 |
| Average collection period | 113 | 98 | 94 | 130.25 |
| Debt to Equity | 0.75 | 0.85 | 0.90 | 0.88 |
| Net Profit | 0.082 | 0.07 | 0.06 | 0.075 |
| Total Asset Turnover | 0.54 | 0.65 | 0.70 | 0.40 |
| Quick Ratio | 1.028 | 1.03 | 1.029 | 1.031 |
| Current Ratio | 1.33 | 1.21 | 1.15 | 1.25 |
| Interest Coverage Ratio | 0.9 | 4.375 | 4.45 | 4.65 |

So, we have a set of information given to us, here is a table; there are a range of ratios which are given to us for 3 financial years.

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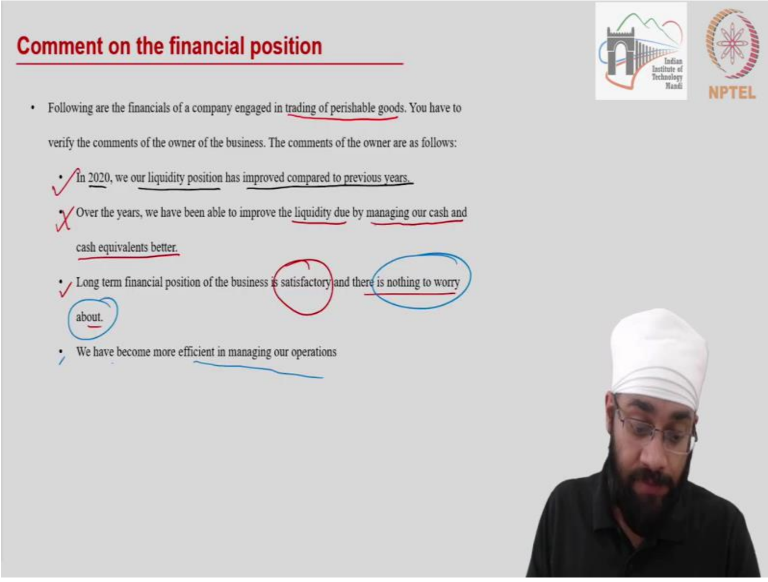


And we also have the average of the top 5 competitors and what we need to do is to answer some questions. Here the financials of a company which is engaged in trading of perishable goods are given to you. You have to verify the comments of this owner. The owner of the business is making some comments and we have to look at the numbers and say whether his comments are in the right direction or is he himself misinterpreting the numbers. The first comment is, in 2020, our liquidity position has improved compared to previous years.

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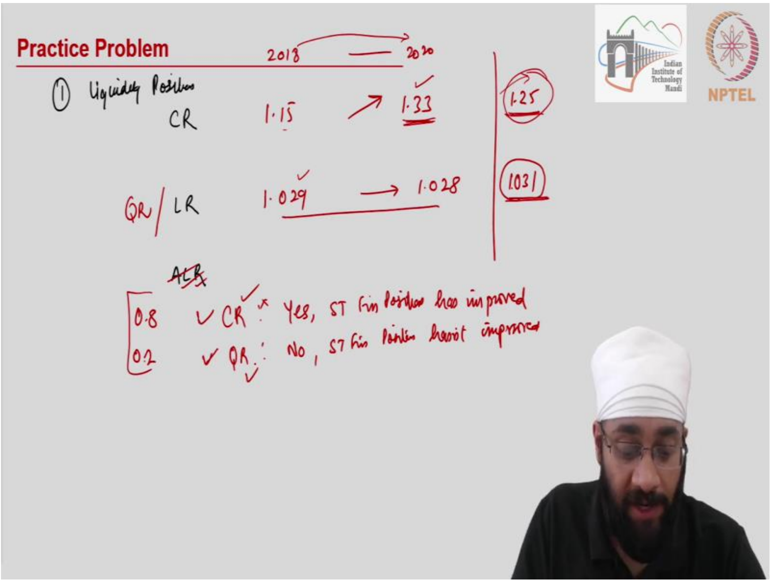

Let me get the liquidity numbers. Liquidity position can be gauged by looking at current ratio; we can look at the liquid ratio, we can look at absolute liquid ratio. So, where are these numbers in this table? Quick ratio and current ratio, but there is no absolute liquid ratio. So, the quick ratio is going up, going down; well, it went up slightly and then it went down. So, from 1.029 it is 1.028. It is not going up, the quick ratio has gone down actually; the liquid ratio, this is the quick ratio 1.029 to 1.028. And I am saying it for a period of 2018 to 2020. Let us look at the current ratio as well. From 1.15 to upwards and again upwards. So, 1.15 to 1.33; it is upwards and the industry averages are also given to us, 1.25 for current ratio, this is industry average and you have 1.031 for the quick ratio.

We do not have information on absolute liquid ratio, so let us just ignore that. Using these two, what kind of conclusions can we come to? So, are we better; have we improved our liquidity position? Are we better in terms of our ability to meet our short-term liabilities? That is the first question. So, the current ratio has gone up and it is better than the industry average as well. Although we only have to comment on whether the position has improved over the years; but you can also take a benchmark, industry average. Compared to industry average, we are doing better. The company is doing better; compared to the previous 2 years the company is doing better. In the previous 2 years or 3 years actually, from 18 to 20, we have surpassed the industry average; we have crossed the industry average of 1.25. So, according to the current ratio, we can say yes, our short-term financial position has improved. So, the first statement can be corroborated, and can be verified.

Let us then look at the second ratio, which is the quick ratio; which means take out the stock and prepaid expenses from the numerator and then do the calculations. It is static, it is not changing, it is not moving. Compared to industry average we were doing worse and we continue to do worse. There was 1 year in between when this ratio, quick ratio went to 1.03; we met the industry standard, but we could not surpass it and again we dropped it. So, overall, we would say that according to the quick ratio; we are not in a good position, because compared to industry standards, we have gone down. Now, you could argue that this is very small variation, it is not a very large difference, it is 0.01 only. It may not be a significant number, but still compared to industry average, we are below; we should be better than the industry, why should we be below the industry average by even 0.01.

Let us be very strict with this company. We said no, the short-term financial position has not improved. So, we have contradictory conclusions from these two ratios. Depending upon what you are more interested in, you could pick each of these items. So, you could say the current ratio is of more importance; so, we are going to assign 80 percent weightage to this and 20 percent weightage to this. Which would mean overall we are in a satisfactory position; we are doing well in terms of short term financial position. But if you say no, the stock and prepaid expenses which are the part of current asset, which is the difference between these two ratios; stock is very highly unlikely to be sold now, because the regulations have changed, the government has changed, or there is a new competitor in the market and we will not be able to sell the stock. If that is the case, then you certainly should discard the current ratio and look at the quick ratio, which shows you the money, the assets, current assets which you can actually convert into cash. So, you have to do some subjective analysis to come to such conclusions.

But overall if the stock and prepaid expenses are not doubtful; prepaid expenses of course are not doubtful, but if stock is not doubtful to be sold, then you can look at the current ratio and say we are in a satisfactory financial position. Let us look at the second statement which says over the years we have been able to improve the liquidity. So, it is assumed that liquidity has improved. We are going to say fine, let us assume that liquidity has improved; let us give more weightage to the first ratio, which is the current ratio. Now, it says, we have improved our liquidity by managing our cash and cash equivalents better. So, it is assigning the improvement in the current ratio to the cash and cash equivalents.

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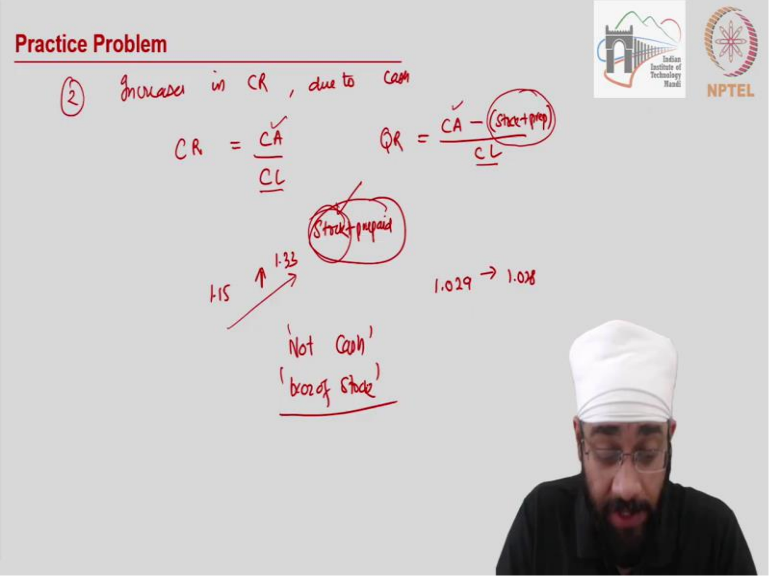

What it is saying is the increase in current ratio is due to cash and cash equivalents. Is this true? Now, let us look at it; the current ratio is equal to current assets divided by current liabilities. Quick ratio on the other hand is equal to current assets minus the stock and prepaid expenses divided by current liabilities. So, in these two ratios, the difference is that of stock and prepaid expenses.

Now, the current ratio is going up from 1.15 to 1.33; on the other hand, the quick ratio stays the same; 1.029 to 1.028, it actually goes down a little bit. So current liabilities are common in both the numbers, current assets are common, only difference is the stock and prepaid expenses. So, if the current ratio is going up, the reason for this is stock; not the cash and cash equivalents. The current ratio is going up, because the amount of stock; the amount of inventory that you are able to hold now is going up. So, this is not due to cash and cash equivalents; but because of the stock that you are able to maintain or the prepaid expenses, more expenses are being paid in advance, that is what it means.So, the second statement has been actually refuted; we cannot verify that statement unless more information is provided to us.

Let us go to the third statement, which says long term financial position is satisfactory. And there is nothing to worry about; is there nothing to worry about? Let us look at long term indicators. Let me use a different ink here as well; which ones are the long term financial position indicators? So, we know debt to equity and then interest coverage and then we have proprietary ratio, which we do not have here; but we have debt by total assets, which is opposite of proprietary ratio. So, we can make use of these three ratios to come to some kind of conclusion.

So, the debt to equity ratio is actually going down, fine. The debt of the company, debt in the company is going up from 35 percent to 40 percent of the total value of the assets, and the interest coverage ratio has actually significantly gone down. So, let us bring these numbers to a new page and then discuss these; debt to equity first, from 90 percent to 75 percent.

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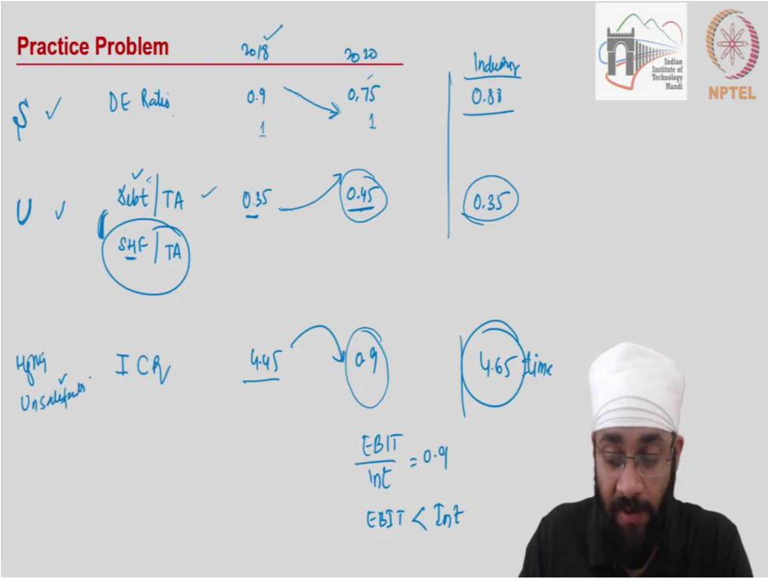


So, debt to equity ratio from 90 percent to 0.75 percent and industry average is 0.88, 0.88 is industry average the benchmark. Now, this is 2018, this is 2020; the debt-to-equity ratio is going down, which means there is less debt in the company compared to the equity. So, the proportion of debt is going down vis-a-vis equity, this is what it says. In 2018, if you had 1 rupee worth of equity; you had 90 paisa worth of debt and now you only have a 0.75 paise worth of debt compared to 1 rupee of equity. So, vis-a-vis equity, the contribution of debt has gone down. Now, is this good or is this bad is the question. And we answer that question using the industry average. Industry, or the competitors are using debt which is 0.88 of 1 rupee of equity. And we have now reduced our debt level to only 0.75; which means we may not be operating at the industry average. And if we take industry average to be the optimal debt level then we are certainly not doing great; we are leaving some value on the table, we are not capitalizing on an opportunity. We could have taken a little bit more debt and benefited from the low cost of debt, which we are not doing. Anyways, this is not very alarming in the sense that debt is not becoming too much. So, yes, it is satisfactory, we may not be the optimal level; but it is not highly dissatisfactory, there is nothing alarming, nothing to be worried about. So, the first ratio is done. The second ratio is debt divided by total assets, this is what is given to us; goes up from 35 percent to 45 percent, 35 percent to 45 percent. And the industry average in this case is 35. What does this mean? This means how much debt has total contribution to the assets. The opposite of this is going to be shareholders' funds divided by total assets. This is what we were interested in the proprietary ratio; however in this you would have only shareholders' funds and debt may only include the long term funds. Therefore, these are not exactly complementary to each other; you cannot do 1 minus this ratio equal to the proprietary ratio. You cannot do that, because current liabilities are not included here. However, what we can understand is that this company has raised a lot of debt; from 35 percent, now the debt contribution is 45 percent in the total assets of the business. So, the debt to equity ratio was going down, but total debt in the company has gone up and the industry average is only 35 percent debt. And now we are 10 percent higher, which can be sub-optimal, which can be dangerous for the company; because we are operating at very high debt levels. There is advanced discussion in courses like financial management or corporate finance, where we talk about the dangers of having a lot of debt; the costs that have to be incurred by the company to have that higher debt, the insolvency possibility is also there. So, having this much high debt may not be good for the company.  Although in using the first ratio, we said a satisfactory debt position, satisfactory long-term financial position, I am going to downgrade that estimate and say looking at this new number, it seems that we are breaching the industry standard and we are going above the top five competitors in terms of contribution of debt in the total asset, we should not be doing that if possible.

Now, let us look at the third ratio which is interest coverage ratio. What is the interest coverage ratio? From 4.45 we drop to 0.9. So, 4.45 to 0.9 is a serious drop, a very serious drop compared to the industry average of 4.65. All the competitors, the top five competitors actually are maintaining 4.65 times. They have earnings which are 4.65 times the interest amount which is due to be paid. You were there as well, but you were very close to that in 2018; but over the 2 years which followed after 2018, you have less earnings, actually your earnings are not sufficient to pay off your interest expenses. This means the EBIT over interest is 0.9. It means EBIT is actually less than the interest which needs to be paid. You do not have enough money to pay the interest, you must have done some short-term arrangement to pay off the interest. This is a very serious position for the company to be in, this is not good for the company; because you are not able to meet your short-term expenses at all. So, I would say this is highly alarming, highly unsatisfactory. So, the owner of the company, who says there is nothing to be worried about is wrong, is completely way off; he does not see this or he is trying to hide the effects from the stakeholders.

Let us go on to the last point which says we have become more efficient in managing our operations. What are these numbers which indicate efficiency of operations? Let me use a different ink- this one. So, efficiency is indicated by the turnover ratios, we have stock turnover ratio, inventory turnover ratio; we have the collection period and we have total asset turnover ratio. Let us use these three numbers to come to some kind of conclusion. The inventory turnover goes up from 32 to 62.

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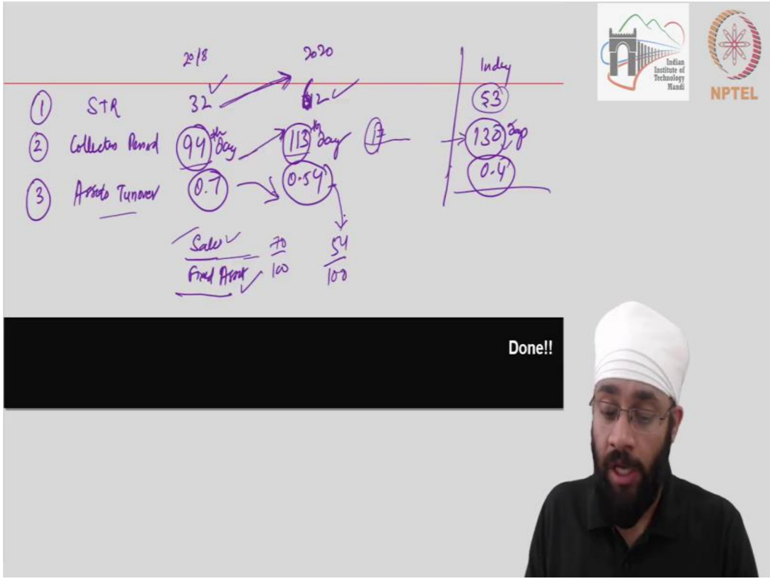


Let me use this last slide; the stock turnover ratio goes up from I said 32 to 62 and industry average is 53; 62 and 53. So, the industry average was 53, and 62 this is stock turnover ratio. Let me look at another, second indicator, which is the average collection period. Debtors go up from 94 to 113, this is the collection period; which means every 94th day or every 113th day we collect from our customers. And the industry average is 130. Finally, the third number we have is total asset turnover, which is 0.7 and 0.5. So, 0.7 and 0.54 and the industry average was 0.4, alright. Let us look at these numbers now, this is assets turnover. Looking at the first number here, stock turnover ratio; this has gone up from 2018 to 2020, stock turnover, we are converting our stock into sales 62 times in a year. We have an average stock that we maintain and then we sell it and then we buy more. So, 62 times in a year we are doing this process. We were earlier doing this 32 times a year; which means we become certainly more efficient in converting our stock into sales. Industry average was 53, so we jumped above the industry average in the two years, good operations; we have been managing our operations; we have become more efficient in managing our stock, we can say that.

And also, during the discussions of short-term financial position, we noted that the stock has gone up; the current ratio was higher than the quick ratio. So, the contribution of the stock has gone up, which is also reflected here. Now, if you have more stock, you are doing more sales; are you managing your customers better, are you managing the credit given to the customers better?

So, earlier we used to collect, the company used to collect money from the customers every 94th day in the year, and now we are doing every 130th day in the year. The industry average is 130 days, every 130 days you collect from your customers. Let me just make sure that this is what it means as well; average collection period, period is in days. So, on average every 94th day to the 113th day; if we are able to collect, we are increasing the number of days of credit given to the customers. So, we have increased this, which means our credit policy has expanded, has improved. Has it improved compared to industry standards? Well not, industry is giving higher credit period. They are giving 130 days; we used to give 94 days, now we are giving 113 days. So, maybe the company can do something here; company can increase its credit period by a few more days, 17 more days at least and can go above. And this is industry average; still, some competitors may be giving actually more than 130 days worth of credit to the customers. So, the company may need to think about this a little bit more and see if it wants to improve its credit policy. And finally, we have the third ratio asset turnover ratio, which essentially is the sales divided by the fixed assets.

So, sales were 70 percent of the fixed assets; now, they are 50 percent of the fixed assets. Sales as a percentage of fixed asset has dropped in the last 2 years. Compared to industry, we are still doing fine; but comparing to ourselves, we have become inefficient. We have invested in more fixed assets, but we have not generated enough sales to maintain the assets turnover ratio at the same level. So, this means that earlier sales were 70 percent of the fixed asset now they are only 54 percent of the fixed assets. Maybe the base has gone up, maybe sale has not gone up by the same number; but we do not have enough information to conclude that. What we can conclude certainly is that compared to industry average, you are doing better; but compared to your previous track record, you have gone down in terms of your efficiency, your ability to manage your fixed assets in the business.

Overall, the efficiency of the business I would say, yes it has gone up; you have been better in managing the stock. You can do better in extending the credit period to the customers; but there is nothing alarming. You can be more lenient which may help more sales and if you do this then this lower asset turnover ratio can also be possibly improved as well.

Let me stop here. In this video, we discussed the efficiency level of the business, the short-term financial position and the long-term financial position of the business. We verified the claims given by an owner; in a new way which we have not done before. We looked at a bunch of ratios and we tried to compile various numbers; mix and match to come up with, to interpret these numbers better. I will see you in the next video.