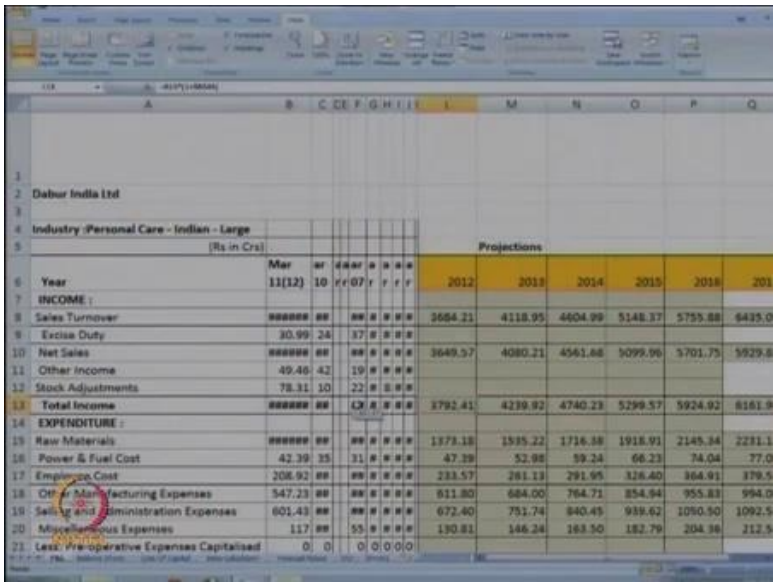
**Managerial Accounting**
**Prof. Dr. Varadraj Bapat**
**Department of School of Management**
**Indian Institute of Technology, Bombay**

**Lecture - 40**
**Financial statement - Forecasting and use of Adjusted data - Pfizer and Merck Case**

Dear students, we are looking at how to use the ratios for making the projections. Those who are listening it for the first time for their benefit, I am just taking a relook at what we have done. First we have studied the ratios, then we have calculated the ratios for various companies using their real data. In the last session, we were discussing how the ratios can be used for projecting the financial statements, and calculating the future value of the company.

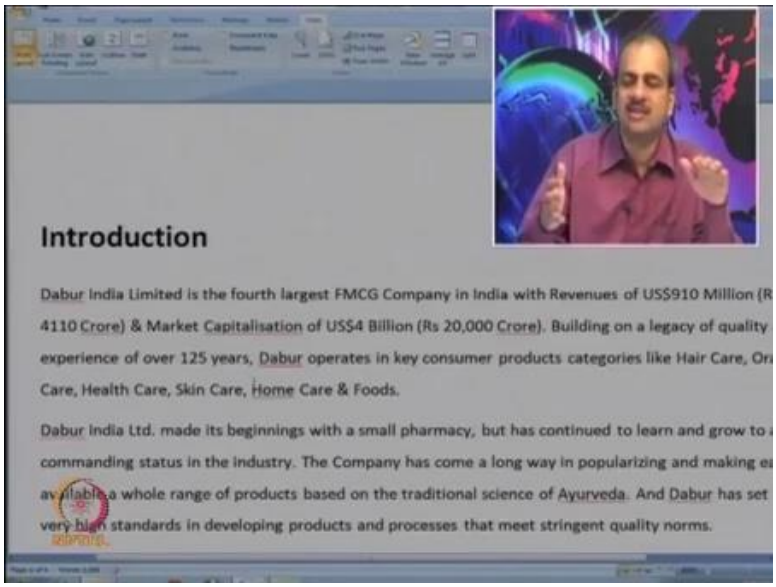
As you all know, the current share holders, prospective share holders, lenders, employees everybody is very keenly interested in projecting the future. It is almost impossible to project the future, only god knows it. But, we will use the tools and the data, which is available with us to get a reasonable estimate. That is what we were learning at. In the last session, we had started the discussion on Dabur India.

(Refer Slide Time: 01:31)



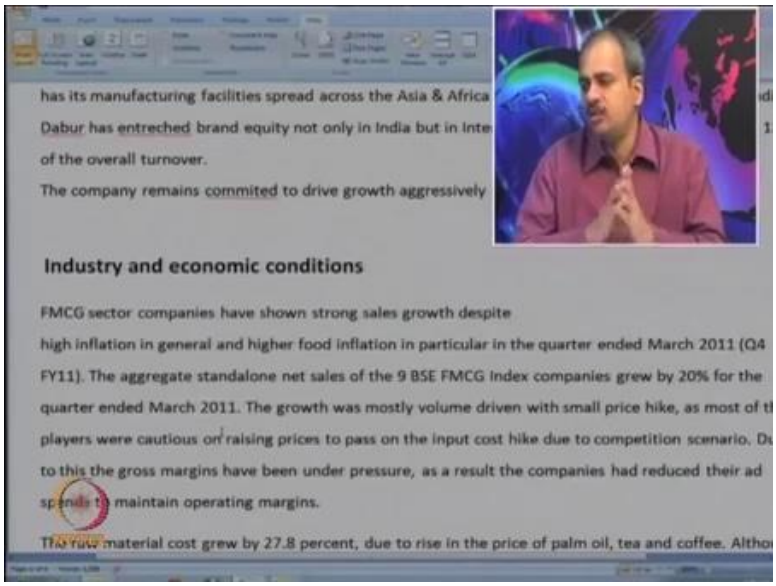
As I told you last time also, please take a print out of all this. So that, you can actually see how the calculations are done, the sheets are shared with you. So, you can take it on your own computer and look at the formulas.

(Refer Slide Time: 01:51)



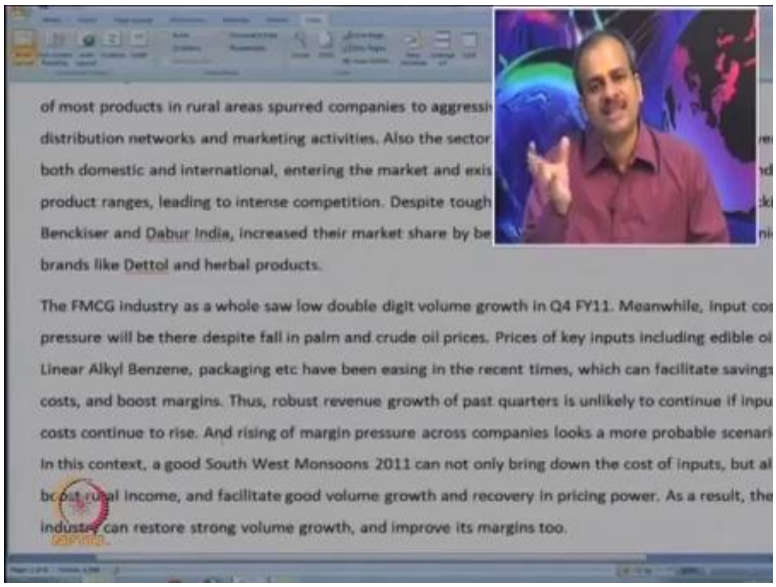

First we started with discussion on Dabur India, where in lot of information is available with about the company. From this information, you can see that it is one of the highly successful FMCG companies, quite stable now, it is there for reasonably long time. So, we can take the data for last 10 years. And reasonably assume that, the same trains can continue in next few years.

(Refer Slide Time: 02:20)



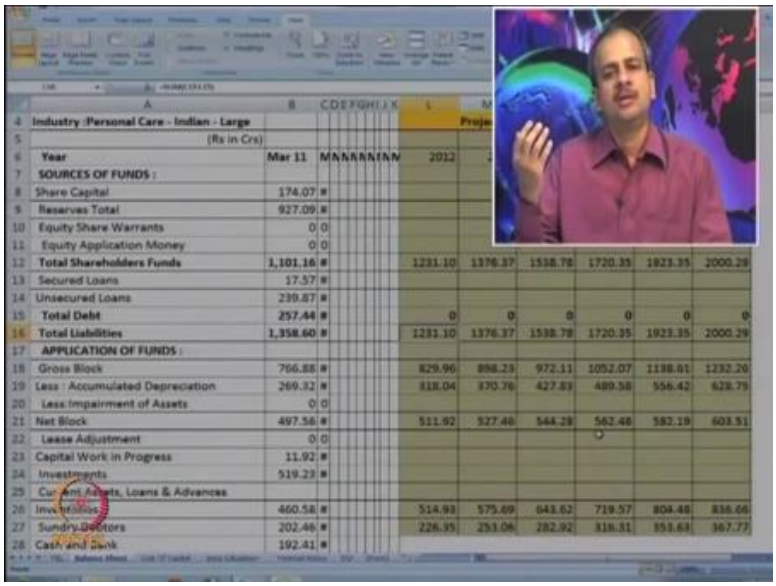

So, we also looked at industry and economy data. Usually CMIA or other associations do give projections about the growth rate of the industry. So, such projection was used it was made available and it was used.

(Refer Slide Time: 02:38)




We also collected the data about stock market. So, we have looked at the prices of the company for last 4 years. We also looked at the movement of sensex for last 4 years. This is some information about FMCG industry, then about the performance of Dabur.

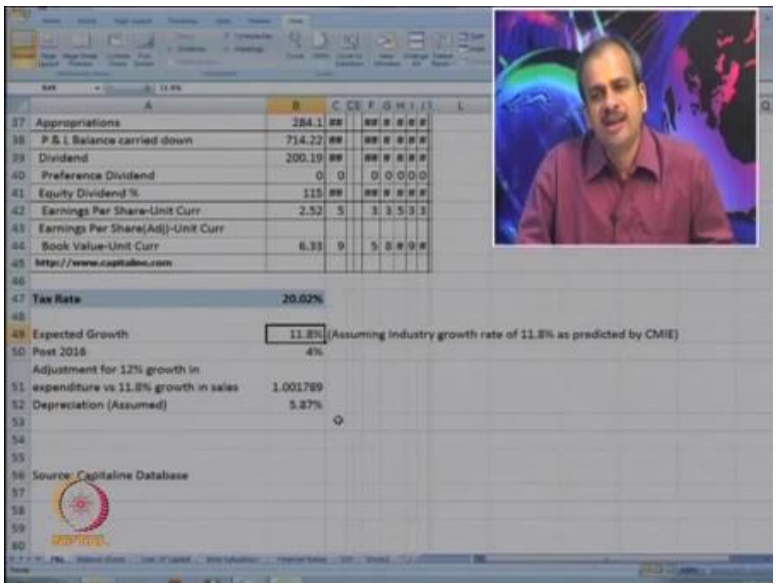
(Refer Slide Time: 03:02)



| | A | B | C | D | E | F | G | H | I | J | K | L | M |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | Industry :Personal Care - Indian - Large | | | | | | | | | | | Proje | |
| 5 | (Rs in Crs) | | | | | | | | | | | | |
| 6 | Year | Mar 11 | M | M | M | M | M | M | M | M | M | 2012 | |
| 7 | SOURCES OF FUNDS : | | | | | | | | | | | | |
| 8 | Share Capital | 174.07 | # | | | | | | | | | | |
| 9 | Reserves Total | 927.09 | # | | | | | | | | | | |
| 10 | Equity Share Warrants | 0 | 0 | | | | | | | | | | |
| 11 | Equity Application Money | 0 | 0 | | | | | | | | | | |
| 12 | Total Shareholders Funds | 1,101.16 | # | | | | | | | | | 1231.10 | 1376.37 |
| 13 | Secured Loans | 17.57 | # | | | | | | | | | | |
| 14 | Unsecured Loans | 239.87 | # | | | | | | | | | | |
| 15 | Total Debt | 257.44 | # | | | | | | | | | 0 | 0 |
| 16 | Total Liabilities | 1,358.60 | # | | | | | | | | | 1231.10 | 1376.37 |
| 17 | APPLICATION OF FUNDS : | | | | | | | | | | | | |
| 18 | Gross Block | 766.88 | # | | | | | | | | | 829.96 | 898.23 |
| 19 | Less : Accumulated Depreciation | 269.32 | # | | | | | | | | | 818.04 | 870.76 |
| 20 | Less:Impairment of Assets | 0 | 0 | | | | | | | | | | |
| 21 | Net Block | 497.56 | # | | | | | | | | | 511.92 | 527.46 |
| 22 | Lease Adjustment | 0 | 0 | | | | | | | | | | |
| 23 | Capital Work in Progress | 11.92 | # | | | | | | | | | | |
| 24 | Investments | 519.23 | # | | | | | | | | | | |
| 25 | Current Assets, Loans & Advances | | | | | | | | | | | | |
| 26 | Inventories | 460.58 | # | | | | | | | | | 514.93 | 575.69 |
| 27 | Sundry Debtors | 202.46 | # | | | | | | | | | 226.35 | 253.06 |
| 28 | Cash and Bank | 192.41 | # | | | | | | | | | | |

Now, let us go at the projections, which we have done in the last session. We were given P and L account for last 10 years.

(Refer Slide Time: 03:14)



| | A | B | C | D | E | F | G | H | I | J | L |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | Appropriations | 284.1 | ## | | | ## | # | # | # | # | |
| 38 | P & L Balance carried down | 714.22 | ## | | | ## | # | # | # | # | |
| 39 | Dividend | 200.19 | ## | | | ## | # | # | # | # | |
| 40 | Preference Dividend | 0 | 0 | | | 0 | 0 | 0 | 0 | 0 | |
| 41 | Equity Dividend % | 115 | ## | | | ## | # | # | # | # | |
| 42 | Earnings Per Share-Unit Curr | 2.52 | 5 | | | 3 | 3 | 5 | 3 | 3 | |
| 43 | Earnings Per Share(Adj)-Unit Curr | | | | | | | | | | |
| 44 | Book Value-Unit Curr | 6.33 | 9 | | | 5 | 8 | # | 9 | # | |
| 45 | http://www.capitaline.com | | | | | | | | | | |
| 46 | | | | | | | | | | | |
| 47 | Tax Rate | 20.02% | | | | | | | | | |
| 48 | | | | | | | | | | | |
| 49 | Expected Growth | 11.8% | (Assuming industry growth rate of 11.8% as predicted by CMIE) | | | | | | | | |
| 50 | Post 2018 | 4% | | | | | | | | | |
| 51 | Adjustment for 12% growth in expenditure vs 11.8% growth in sales | 1.001789 | | | | | | | | | |
| 52 | Depreciation (Assumed) | 5.87% | | | | | | | | | |
| 53 | | | | | | | | | | | |
| 54 | | | | | | | | | | | |
| 55 | | | | | | | | | | | |
| 56 | Source: Capitaline Database | | | | | | | | | | |
| 57 | | | | | | | | | | | |
| 58 | | | | | | | | | | | |
| 59 | | | | | | | | | | | |
| 60 | | | | | | | | | | | |

First, we have used these data to look at the expected growth. Since, CMIE predicted industry growth of 11.8, we have taken the same growth rate. Because, the company is stable highly successful. So, we know that the growth rate would not be less, it might be even more. But on a conservative bases we have taken it at 11.8 percent.

A long term growth rate, post 2016 is usually taken more on a conservative bases. So, it is taken at 4 percent, the rate of depreciation as been assumed at 5.8 percent based on the passed data. Now, with this we have projected the figures. So, we have sales turn over with us for March 11. Same turn over will be used and we go for the projected growth rate of 11.8 percent. So, we get projected turn over for 12, 13, 14, 15, 16 and so on.

So, we have estimated turn over, net sales, total income. The expenditure like raw material, power and fuel, etcetera are closely related to sales. So, they also have been estimated to grow at the same rate, so we come up to profit. So, we have assumed that gross profit will also grow at the same rate. Then, the depreciation, for calculating of depreciation, we have to use a special mechanism, because depreciation depends on the gross block of the company.

So, we will go to balanced sheet. But, whatever is projected gross block, we have charged the depreciation at the given rate. That is 5.87 estimated rate and the depreciation has been calculated, these gives us PBT. Then, we have also estimated the tax rate. So, we have looked at tax rate for March 11 and same tax rate is assumed to continue. So, with this data we come to estimated profit after tax.

Now, let us go to balance sheet, again in the last session we have done it. But, I am taking a brief recap, in balance sheet we only need some data, because, we are going to use this data, for projecting the value of the company, using DCF method, the Discounted Cash Flow method. So, we have not projected all the items, we have only projected a few items.

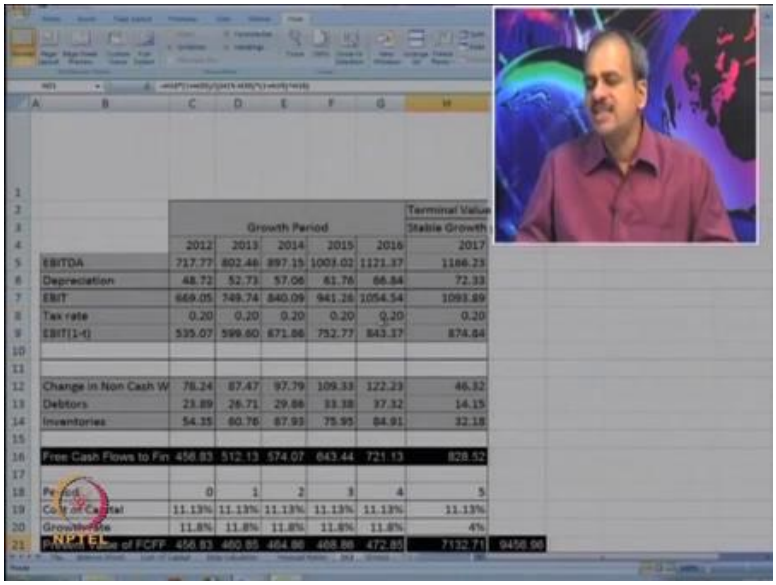
So, we basically need gross block, we have looked at the gross block growth for the last 10 years ((Refer Time: 06:25)), these gives us CAGR of 8.23. So, this is cumulative annualized growth rate, same growth rate is assumed to continue, because it is a stable company. So, we expect reasonably consistent growth of 8.23. So, gross block is taken at that rate. Accumulated depreciation, we know the depreciation of 11, we have estimated the depreciation of 12. So, that has been added.

So, we get the accumulated depreciation for all these years. This can help us to estimate the net block. We also need to estimate inventory and debtors, these two assets are closely link to level of sales. So, whatever is a sale growth, same growth rate has been

applied for inventories and debtors. So, we can estimate the inventories and debtors for all these years.

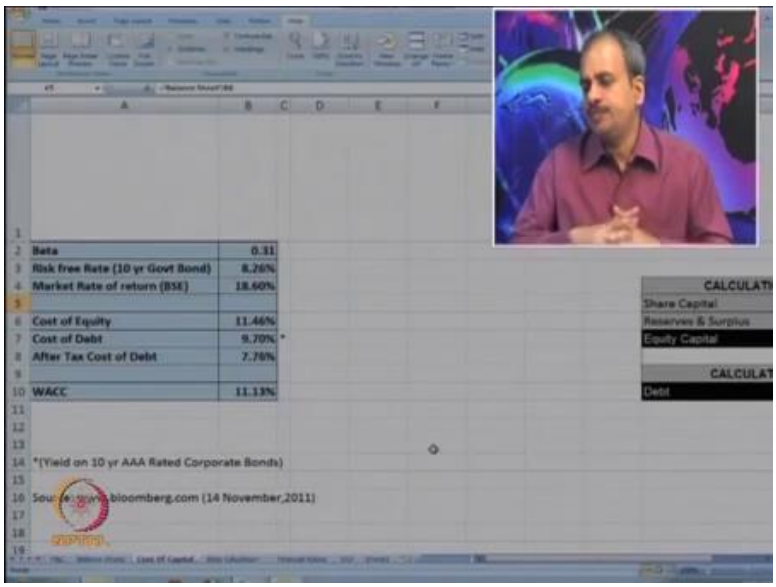
So, we do not look at loans, etcetera or other current assets. Basically, these three are the important figures, we must know gross block, we must know inventory and debtors. And this information, now we will used for making a DCF calculation.

(Refer Slide Time: 07:48)



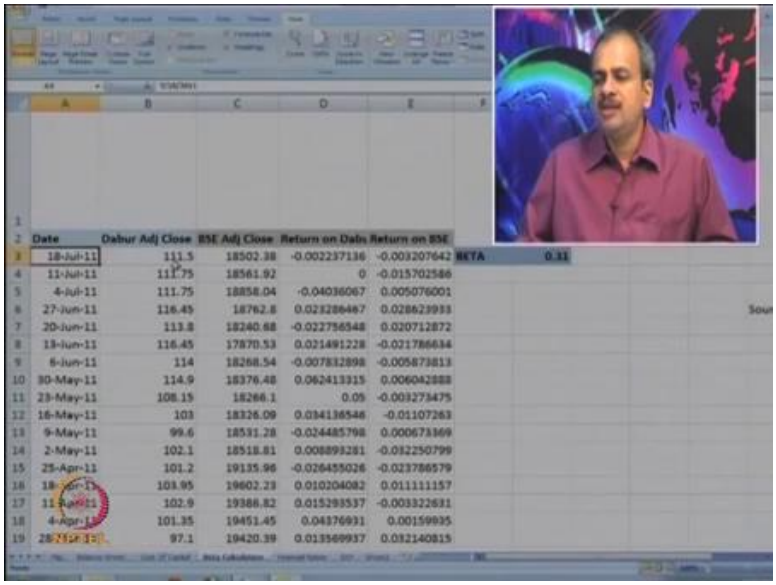

Before going for DCF calculation, which also we will discuss.

(Refer Slide Time: 07:52)



We also need to estimate the cost of capital of the company. Now, what is meant by cost of capital. Now, the company is using the finances, either by way of equity or by way of debt. So, it will have to pay it is cost and will incorporate this cost to estimate the value of the company. Now, the cost of capital estimation, depends on the risk associated with the company to estimate the risk we need to calculate beta factor.

(Refer Slide Time: 08:32)




So, first lat us look at beta calculation. Now, what is meant by beta factor. Some of you many of you will know, but I will just repeat for. So, by beta we are looking at the relative movement of the company's stock, we service the movement of the market. So, we want know how much risky the company is whether the returns of the Daburs, shares are in tune with the returns on BSE.

If the returns follow exactly the same path, the beta will be 1. Now, here we look at the beta of Dabur. So, we have taken the prices of Dabur for last 4 years, you can see here from 30th June to July 11. The price data for Dabur as well as BSE sense sex is estimated is taken, it is already available. Then, the return is calculated on both Dabur and BSE, based on this the beta is calculated.

Beta is nothing but, the slope. So, we have used the slope function, please have a look at the function, formula which is used. So, we get a data beta of 0.31, what does it convey to you? Beta of one, means the company is as risky as the market. Beta of 0.31 means

relatively the company is less risky. So, the returns on the Dabur stock are more stable, then the returns on BSE.

We will not go much into depth of concepts of beta, etcetera. Please a look at portfolio management books or corporate finance books for the same. But, here you can look at how the beta as been estimated or it has come to 0.31 ((Refer Time: 10:44)). Now, let us go to calculation of cost of capital, many of you will be aware of CAP a model, which is known as Capital Asset Pricing module.

Now, here for CAP a module we need risk free rate of return. So, we have got 10 year government bond written this you can get from RBI site or some other sites. So, it is 8.26 market rate of return. So, we have considered BSE sense sex as a proxy for the market. So, which is 18.60 percent, now once you know these two, we can estimate the cost of equity. So, you can look at the formula it is B 3. B 3 is the risk free rate of return, which any way any investment has to earn plus. So, it is B 3 plus the risk premium.

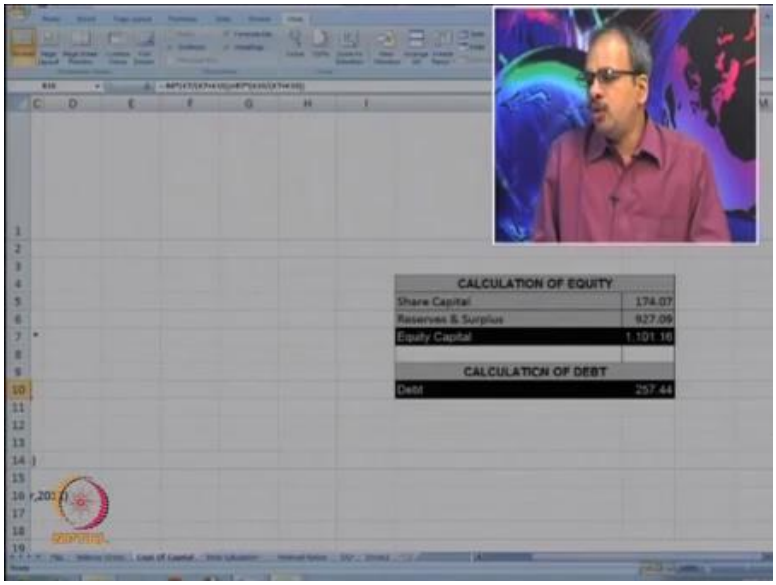
Now, to calculate the risk premium, you can look at the formula it is B 2 into B 4 minus B 3. So, B 4 is a market return, B 3 is a risk pre rate of return. So, usually this is the premium required for any stock market investment 18 minus 8. So, around 10 percent and we multiply this by beta, beta is a riskiness of this particular company. Now, this particular company the beta is less than 1.

So, it is preserved as less risky than the market. So, the cost of equity comes to 11.46. You can look, it is less than the market rate. If the beta would be one, the cost of expected cost of equity will be same as market 18.6. If the beta is more than one, it will be more than the market. So, in this case it is 11.46 the cost of debt is taken as 9.7. Now, here we have not gone by the actual cost of debt by the company, because we are looking at future projection.

So, we have taken yield on 10 year triple a rated corporate bonds. We know that, Dabur is well established company it has triple a that is it has highest rating. So, the yield for triple a rated corporate bond. This again you can get it from Bloomberg or RBI or various sites. So, it is 9.70, so that has been taken as a proper estimate for Dabur. Then, we have to take a post tax cost of debit. Because, you know that interest is a deductable expenditure for tax calculation.

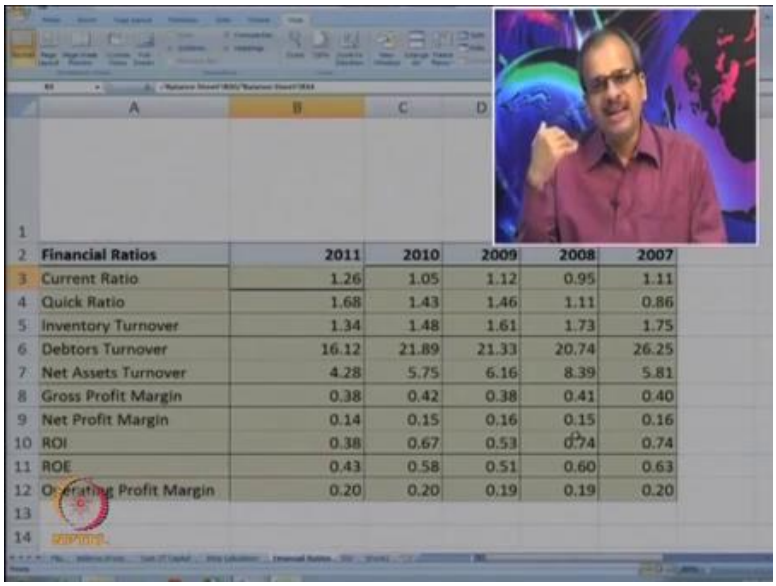
So, we save on tax when we calculated interest. So, we have calculated post cost of debt, which comes to 7.76 we have use it use the tax rate of 20 percent, which is there in which was estimated from that P and L sheet. So, now we know both, we know cost of equity and we also know cost of debt, with this we can calculate weighted average cost of capital.

(Refer Slide Time: 14:12)




You can look at the equity and debt calculation, these are the actuals for March 12. So, the same mix is assume to continue. Now, it may also happen that company repays the date in future, then that will affect the cost of debt. But, for the sake of simplicity we have assume that company will continue with the same wait ages. So, now the waiter average cost of capital is calculated. So, equity and debt is assumed to have remain in the same proportion. We know that the cost of equity is 11.46, the cost of debt is 9.7. So, we get 11.13 as the weighted average cost of capital up to this is it clear.

(Refer Slide Time: 15:06)



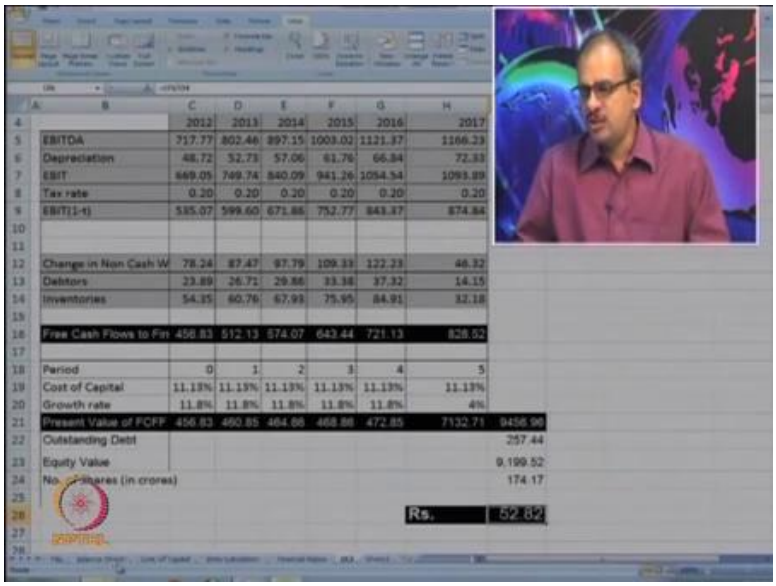
| | A | B | C | D | | | |
|---|---|---|---|---|---|---|---|
| 1 | | | | | | | |
| 2 | **Financial Ratios** | **2011** | **2010** | **2009** | **2008** | **2007** | |
| 3 | Current Ratio | 1.26 | 1.05 | 1.12 | 0.95 | 1.11 | |
| 4 | Quick Ratio | 1.68 | 1.43 | 1.46 | 1.11 | 0.86 | |
| 5 | Inventory Turnover | 1.34 | 1.48 | 1.61 | 1.73 | 1.75 | |
| 6 | Debtors Turnover | 16.12 | 21.89 | 21.33 | 20.74 | 26.25 | |
| 7 | Net Assets Turnover | 4.28 | 5.75 | 6.16 | 8.39 | 5.81 | |
| 8 | Gross Profit Margin | 0.38 | 0.42 | 0.38 | 0.41 | 0.40 | |
| 9 | Net Profit Margin | 0.14 | 0.15 | 0.16 | 0.15 | 0.16 | |
| 10 | ROI | 0.38 | 0.67 | 0.53 | 0.74 | 0.74 | |
| 11 | ROE | 0.43 | 0.58 | 0.51 | 0.60 | 0.63 | |
| 12 | Operating Profit Margin | 0.20 | 0.20 | 0.19 | 0.19 | 0.20 | |
| 13 | | | | | | | |
| 14 | | | | | | | |

Now, before going for DSF calculations, let us also look at the financial ratios. Since, we have already estimated the figures for all these years, we can calculate the estimated ratios. You can look at the a ratios, which are calculated for the company, we have current ratio of 1.26, 1.05, 1.12 and so on. I hope you know the formulas now I do not have to repeat.

So, what is a formula of current ratio, do you remember, I think all of you know it, it is c a up on c l. So, c a c l figures are estimated. So, the same figures are used for this thing, right now in this sheet we are not giving estimates, we are taking the past that is from 7 to 11. These are exactly not all the ratios are useful for estimating. But, it gives you some idea about the company is it stable, how are the trends.

So, you can see that current ratio is reasonably good, it is more than one, it is remain reasonably constant in a range in 2008 it has go down to 0.98. Now, it is quite healthy, it is 126 same way quick ratios is also quite good, inventory turnover, data turnover various ratios have been calculated including ROI, ROE. In our earlier session, we have done number of cases. So, I am not repeating the same, I hope you can calculate the figures. But, please calculate and check with whether they are matching with this figures.

(Refer Slide Time: 16:59)




Now, let us go to calculation of DCF the Discounted Cash Flow method as it is called. So, the idea of DCF is we will look at the free cash flows with the company. Now, what is free cash flow? So, we know that EBDITA, Earning Before Interest Depreciation and tax is taken at as cash flow, from that we will reduce the taxes etcetera. We will also look at how much money gets blocked in non cash working capital items. Particularly debtors and inventory, because they are business related.

Here we are not looking at current liabilities, because anywhere they need to be paid. So, what is actually getting blocked in debtors and inventories is calculated. And that is reduced. So, because we want look at the free cash flow, then that available amount will be we will use the growth rate to calculate the present value of the cash flow. We also calculate the terminal value at the end of 5 years, we can estimate for 5 years, future projections will be too much of an estimates.

So, we stop at 5 years and calculate the terminal value. So, based on the value for this 5 years plus the terminal value, you can get the DCF value. This is a very simplified model, we can even have more sophisticated models. But, I have tried to make it a very simple. And I request you to tick real data and do it. So, since this sheet is also shared with you, please put in your data and try to do it for your own company.

Now, we start with EBITA, this EBITA as you know was calculated from P and L, just will go back this is l 23 from the P and L sheet. So, P and L sheet we had this operating

profit, for calculating the operating profit we had taken total income minus the expenditures, like raw material, power that is without considering interest and depreciation.

So, we had this EBITA figures of 717, 802 etcetera they will be now useful. So, for DCF calculation we start with EBITA, we have also estimated the depreciation. So, EBITA minus depreciation gives me EBITA. Now, this is estimated EBITA and depreciation also has been taken from the estimated figures. We have assumed a tax rate of 20 percent about it is some 20.2. So, whatever is the tax rate of March 11 has been continued.

If you have some information about changes in tax rate, you can incorporate. But, right now we do not have any information. So, will assume that the rate will continue to be about 20 percent, so will get EBIT the estimated profit, before interest and tax which comes to 5.35. So, this is not before tax this is after tax, but this is before interest. So, we get EBIT in to 1 minus t, that is after tax EBIT.

Of course, it is hypothetical, actually tax is to be paid only after payment of interest. But, for calculating the DCF value, we take EBIT and deduce the tax. So, we get EBIT in to 1 minus t, then we have taken the debtors figures. So, you can see how it is calculated, it is l 27 minus b 27. So, let us go to balance sheet ((Refer Time: 21:17)). So, this l 27 is nothing but, the projected figure of debtors for March 12 minus the projected figure of debtors for March 11.

So, we essentially look at increase in debtors. Because, when there is increase in debtors to that tune, the money gates blocked. So, we are looking at how much is incremental cash, which is blocked in debtors. Same thing is repeated in all these years. So, increase in debtors is taken for every year. So, for DCF we have taken this 23.89, 26.71 and so on for inventory also same method.

So, we look at non cash current assets, mainly data's and inventory, which are required for business. And how much more cash is getting blocked up in these assets. Now, we calculate the free cash flow to the forum FCFF as it is popularly known as. So, free cash flow to the forum is c 9 minus c 12. So, c 9 was our EBIT in to 1 minus 3 minus the total change in non cash working capital items. So, we get to have this 456.83.

Now, what does the this FCFF convey to you? What do you get from this? So, we have started with EBITA, this 7.17. This is our estimated profit before depreciation. We have reduced depreciation to get profit before interest and tax, we have deduced tax at given rate. So, it is estimated that forum will have 535 of EBIT available, we also deduct debtors and inventories.

So, we get three cash flow from the forum, which is 456. As reduce depreciation it is assumed that much amount of cash is to be set aside to replenish it fixed asset. So, that has been taken aside. So, 456 becomes March 12 FCFF same way a calculation is done for future years. For terminal value the calculation is slightly different. So, let bus look at that.

Now, once the growth of 5 years is taken, we go for the stable growth rate. So, we can see that for 2017, we look at EBITA, the calculation up to EBIT change of debtors and all is seen. So, we also get free cash flow for 2017 on words, it is assume that 2017 and all the years coming, it is going to remain constant. So, only difference here is when this 1166. That is sales was estimated will go to P and L figures for more clarity ((Refer Time: 24:37)).

So, this particular sale was estimated and up to 2017, only difference is we are going to apply a different growth rate for 2017 figures. So, up to FCFF it is same. So, the calculation is done for 1 to 5 years and for the 6th year, assuming that it is going to continue. Now, the cost of capital we had worked it out in the WSSC calculation. So, 11.13 is weighted average cost of capital. Keep in mind, this is not just for equity or debt, this is the rated average cost for the company.

Growth rate, you know that we estimated CMI growth rate of 11.8 for first 5 years. And perpetual growth rate is taken as 4 percent, why only 4 percent? We cannot take a very high rate at that time, we go by little modest calculation. So, normally a perpetual growth rate is taken as only a 4 to 5 percent, which is much less than the current growth rate of 11.8 percent.

Now, we have calculated the present value of FCFF. So, you can look at the formula, it is c 16, this c 16 nothing but, free cash flow to the forum, which we had calculated divided by 1 plus c 19. So, we have discounted it at the cost of capital. I hope you know the

concept of present value. Here in, again if you do not it please look at the financial management text books.

So, the idea is to know the current value of the cash flow. So, the cash flow at the end of year 1 is going to be 456 with discounted. So, in the first year we are getting a same figure. In the second year you can see we will get lesser figure. So, we have got 416 in the next year, it is 464 and so why it is deduced?

Because, we are going to receive money after 1 year, the cost of capital for us is 11.13. So, we discount the cash flow at our cost of capital. That is why it is divided by 1 plus d 19. That is cost of capital and then raise to d 18, d 18 is a period. So, it is for 0, 1, 2, 3 and 4. So, no discounting applies to period 0, period 0 is a first year of estimate. And in the respect coming years, the discounting has been done up to 472.

Now, look at the value current value calculation, which is slightly different in the last year 7.7132 is calculated. So, this is not for 2017, it is for all the remaining years. So, look at the formula it is x 16, that is FCFF is the base multiplied by 1 plus h 20. Now, what is h 20? That is a perpetual growth rate, which is assumed at 4 percent. So, we assume that, this cash flow of 828 is going to now perpetual grow at 4 percent.

So, x 16 in to 1 plus h 20 this is divided by in to bracket h 19 minus h 20. So, what is h 19? So, cost of capital is 11.13 and perpetual growth rate is assume to be 4 percent, so h 19 minus h 20 in to 1 plus h 19. So, it is and raise to x 18. So, since this is in period 5, whatever the value is will be discounted. As if it is received at the end of 5th year have look at that how perpetual growth value is calculated it is x 16 in to 1 plus h 20 divided by h 19 minus 20. So, 19 is the cost of capital minus 4 percent.

Otherwise, in all earlier years we only divided it by g 19, c 19 whatever. That is we divided it by 11.18. Here, it is difference between cost of capital minus growth rate. So, our cost of capital is 11.3 minus 4. So, this 8.28 divided by 11 minus 4, that is divided by 7 above that will be the present the terminal value. Then of course, it is discounted, because it is at the end of 5 years. So, it is present value is calculated.

So, it is come to 7137 please look at the download the sheet and try to study it more carefully. So, we get the total noun which is 9456 from this, this is the value for the whole forum, this is not the value of equity. We are basically interested in knowing the

value of equity. So, we have calculated the value for the hole form, which is 4596 minus the outstanding date, if you look to at the balance sheet you will realize that the total outstanding date as on to date is 257.

So, now from 9456, 257 is deducted. So, we get 9199 which is the equity value. So, this is the value to the owners of the forum. So, 9199 almost 9200 is the in cores of course, is the value of the forum, the total of all cash flow discounted. So, this is the future value, we have divided it by the number of shares. So, if you look at the balance sheet, you will get the outstanding number of shares it is 178.

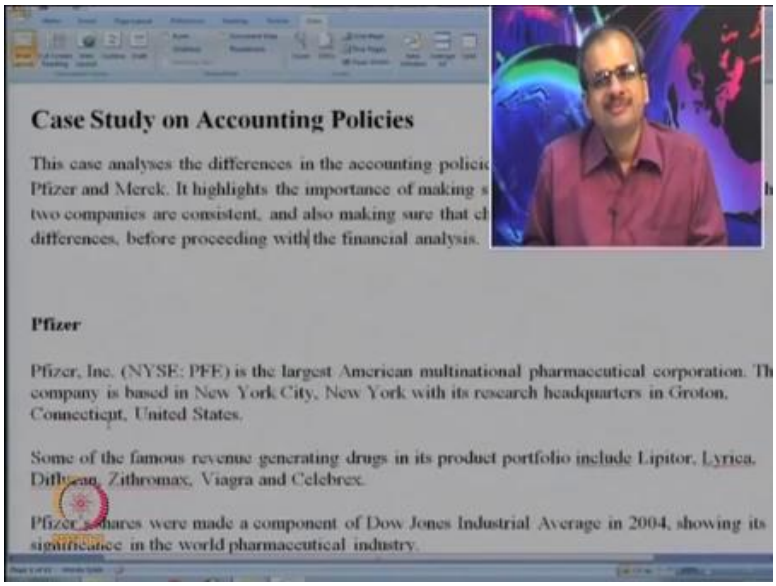
So, 9199 up on 174 we get 52.82 which is the future value of this share. So, this is the DCF value as it is popularly known as discounted cash flow value of share comes to 52 rupees. This can be compared with the market value. So, let us look at the market values, we had done the beta calculations ((Refer Time: 31:39)). So, we know that estimated market the market value at that time was around 111.

So, now, we look at our DCF values and decide, whether the company is overvalued or undervalued and based on that take our investment decision. So, now the value is to 52.82 I hope it is clear to you, how DCF is calculated. So, will stop here and go to next sum. Now, let us discuss our last case, it is a very interesting case, where in we are going to compare to big multinationals Pfizer and Merck. You must have heard that both this companies are very big forum companies both are US based.

We have studied various ratios, for what the ratios are used? I hope you know that one of the very important advantage of ratios is they can be used for comparison. So, if you are given the data of two companies, you can calculate the ratios and compare the performance of the two companies. Now, here one thing you should keep in mind, that there could be differences in the accounting policies of the company.

So, before we compare we need to look at the accounting policies. If there are any differences, we need to adjust for the differences and then do the comparison. In this case study, we have tried to look at the differences, adjusted the figures and then done the comparison. It is very difficult to explain everything in the form of lecture. But, I will again request you to download the necessary sheets. So, they have been provided in the web course. So, you can download and actually look at what were the differences and how they have been adjusted.

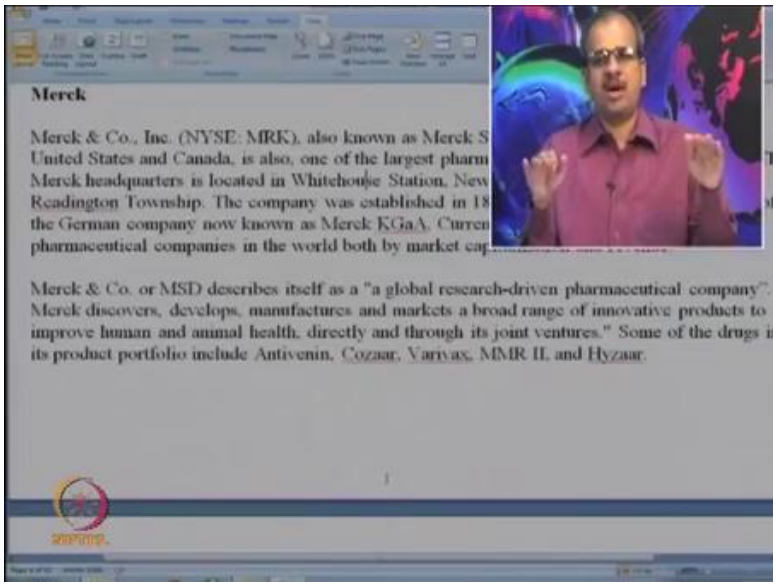
(Refer Slide Time: 33:49)




Let us try to discuss it now. So, this is the case study on comparison, but where in accounting policies are also considered. So, if you do not consider this, then it becomes not very meaningful comparison. Because, they might have used different assumptions, they might have used different ratio methods of depreciation, they might have used different methods of inventory valuation.

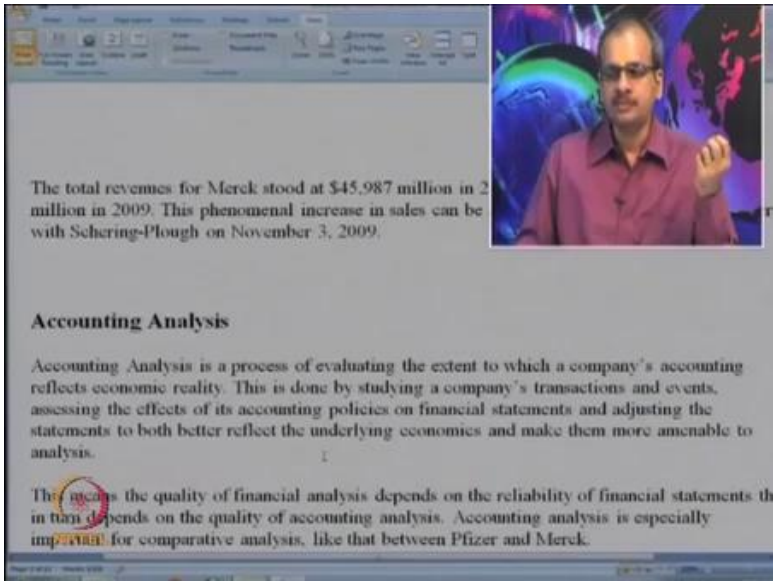
So, we need to equate the methods, make the necessary adjustments in one of the companies. So, that same policies are there for both the companies, and then the data becomes comparable. So, this is some basic information about Pfizer. So, you might be knowing that Pfizer inc is a largest American multinational pharma company based in New York. Some information about their data bases, manufacturing bases, research and so on.

(Refer Slide Time: 34:56)



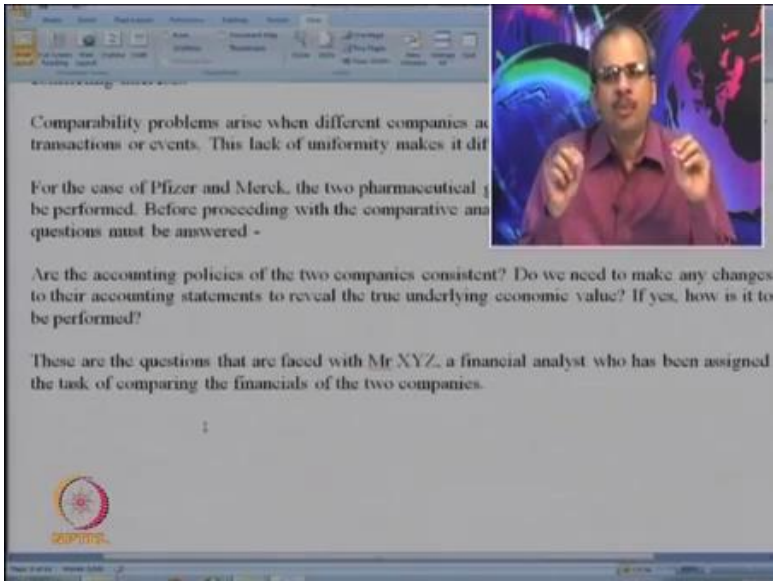

Then Merck; Merck is also an American company, one of the largest pharma companies in the world. Their headquarters are in white house station in New Jersey it is established in 1991. So, one thing you should look at is we should look at compare the peers, which are of reasonable the same size. You cannot compare take a very big company and compare very small company. Then, that comparison of ratios would not be that much useful. So, we have taken companies of reasonable sizes.

(Refer Slide Time: 35:44)



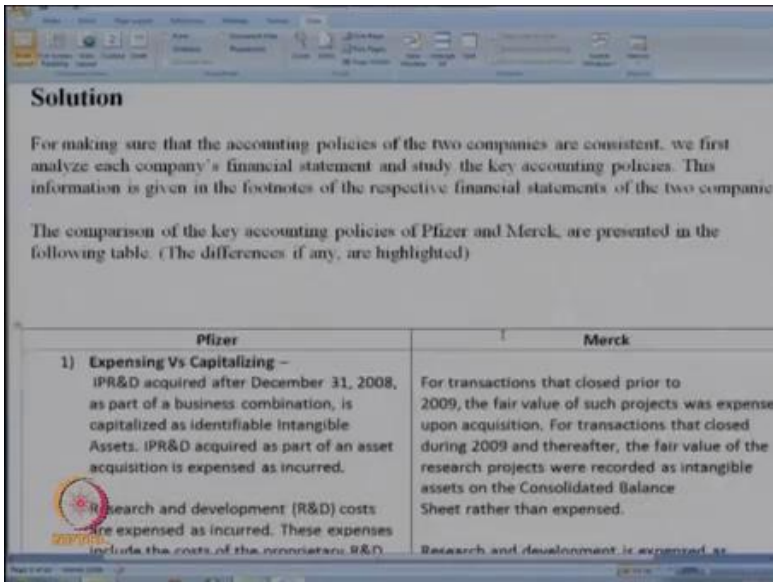
So, if you want to analyze a particular company, please look at it is peer in the same industry and of reasonable same size. Then, calculate the ratios, then we will know that our target company. How it has pared with it is pears? Now, let us look at the accounting analysis. This is process of evaluating to what extend company is accounting, reflects the economic reality. So, you can read this I would not go in to it is detail right now.

(Refer Slide Time: 36:24)



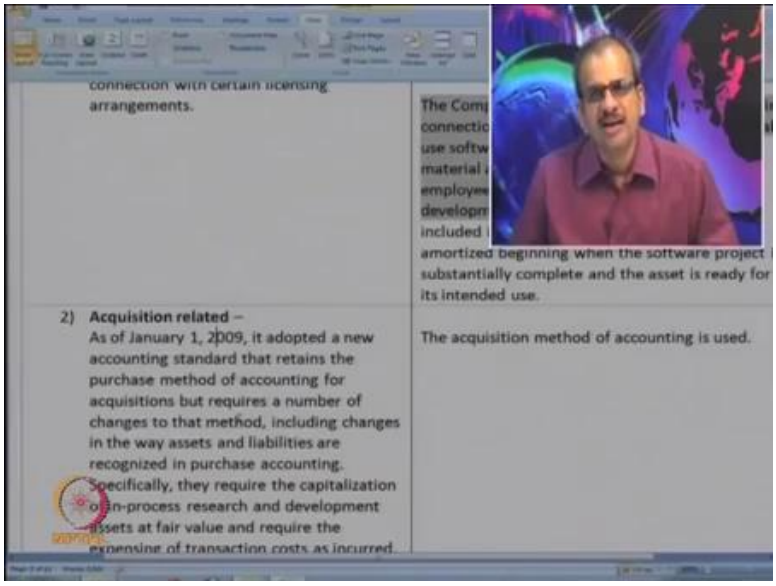

So, what was done was, if there are any differences in the accounting policy, they were identified. I hope you know that, if you look take annual report of the company, they give a detailed list of accounting policies. So, we need to read both the accounting policies carefully and find out what are the differences.

(Refer Slide Time: 36:50)



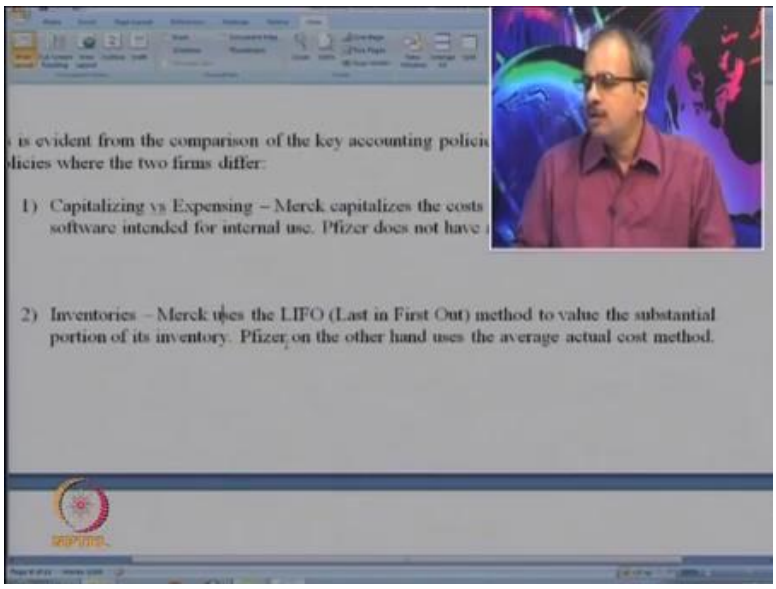

So, here these differences were found. So, you can look Pfizer the first item is given as expensing verses capitalizing. So, by expensing what we name is, if certain expenditure particularly RND expenditure is incurred is it return of P and L account or it is capitalized and so on. So, you can list first IPR and D, because RND is very big expenditure in pharma sector. So, we need to look at it very carefully. So, the differences are given as to what policies are followed by Pfizer and by Merck.

(Refer Slide Time: 37:33)



So, first was expenditure verses capitalizing. Next was acquisition related, because during the last few years, they have acquired new companies. Next is foreign currency translation, revenue recognition, depreciation and amortization, inventories investments, pension and postretirement benefits. So, this is not an exhaustive list and attempt has been made to look at the important items. So, as I said capitalizing of or expensing of R and D becomes a very important item, revenue recognition, investments. So, important items have been identified. So, that the policies those items can be compared.

(Refer Slide Time: 38:22)




So, certain differences were noted which you can read carefully. So, capitalizing verses expensing, you can say Merck capitalizes. The cost related to development of software, intended for internal use, whereas Pfizer does not capitalized. So, they write off to P and L. So, you can visualize that what will happen is Pfizer's profit will get reduced, Merck's profits will be higher, in the first year is this the expenditure incurred.

Suppose both the companies incur the same amount on development of some internal software. That particular year Pfizer's profit will go down, Merck profit will be higher. In the subsequent year, when it is written off the Merck's profit will be lower, the Pfizer's profit will be higher. So, like this you can identify the differences and try to make the adjustments.

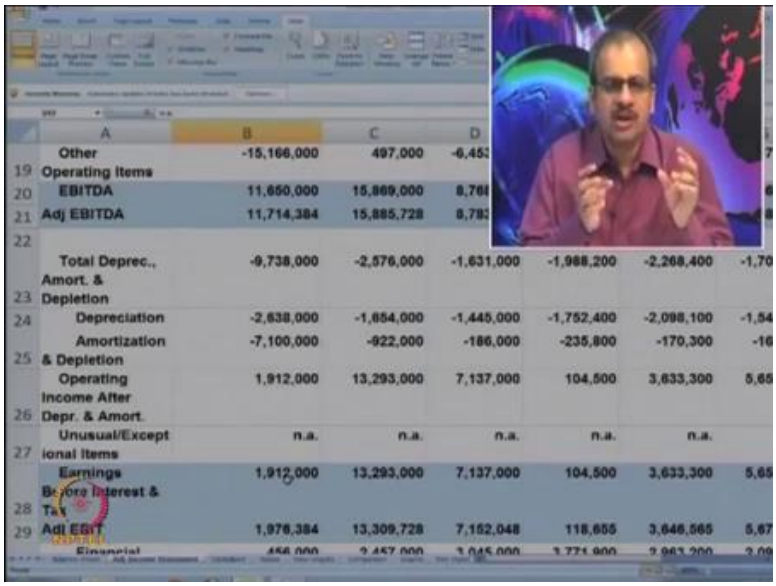
Next is our inventory, you can say Merck uses LIFO that is Last In First Out method. Pfizer on the other hand uses average cost method. So, there is difference in inventory

calculation, like that various differences can be identified. If you know in India LIFO is not allowed, company can either use FIFO or weighted average as per the Indian gap in US they can use LIFO. So, Merck is using LIFO where as Pfizer is using average cost. So, we have to identify the difference, because of this and adjust for it.

So, like this the adjustments have been noted. And based on this now let us go to in to calculation of ratios. Currently the intention is not to teach you the ratios. So, I will not teach you exactly how the ratios are calculated, I hope you know it now. But, more particularly you look at how the adjustments are made, and then the ratios are calculated.

So, now what we have done is we have both Merck data and Pfizer data, we have decided to adjust the Merck data. So, you can take any one company's data and adjust it. So, that both the company's policies are on park. So, this is the balance sheet of Merck. So, it is taken for last 10 years, then balance sheet for Pfizer, income statement for Merck look at it carefully, because adjustments have been made there. So, this is the gross sales and so on.

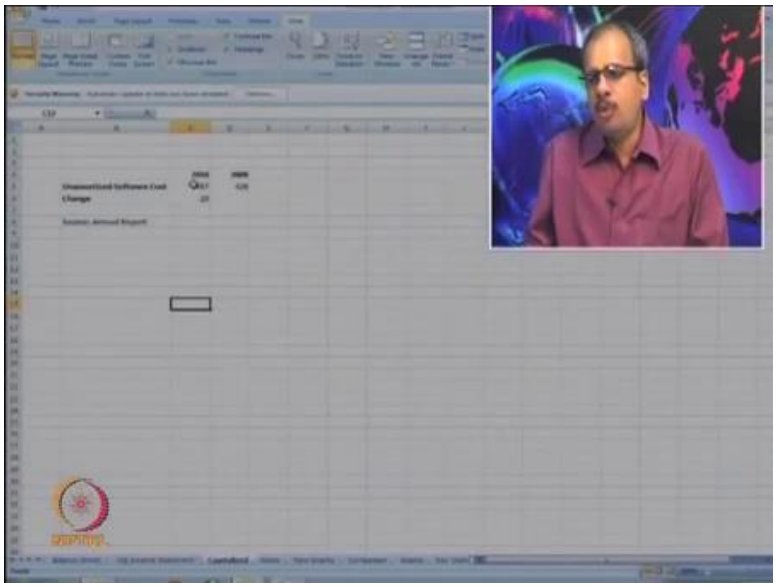
(Refer Slide Time: 41:12)




Now, what has been done is because the R and D expenditure is adjusted, there is some difference in the calculations. We have done EBIT EBITA as per Merck was 11650. It has been adjusted to account for those differences. So, similarly adjustments were made and here we have got the adjusted income statement for Merck. So, please have a look at it carefully. You will have to go in to each individual item to know exactly how the

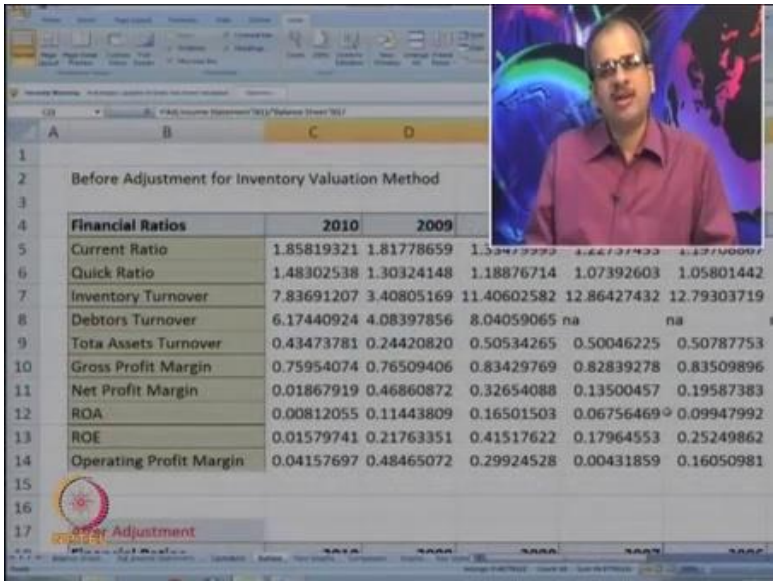
adjustments are made, but I think it will be self-evident. So, the philosophy is whatever are the Merck policies which are not in tune with Pfizer, then the Merck's in the financial statements are adjusted. So, that they are comparable with Pfizer.

(Refer Slide Time: 42:16)



Here you can see, there is some difference in unamortized software cost, which has been adjusted.

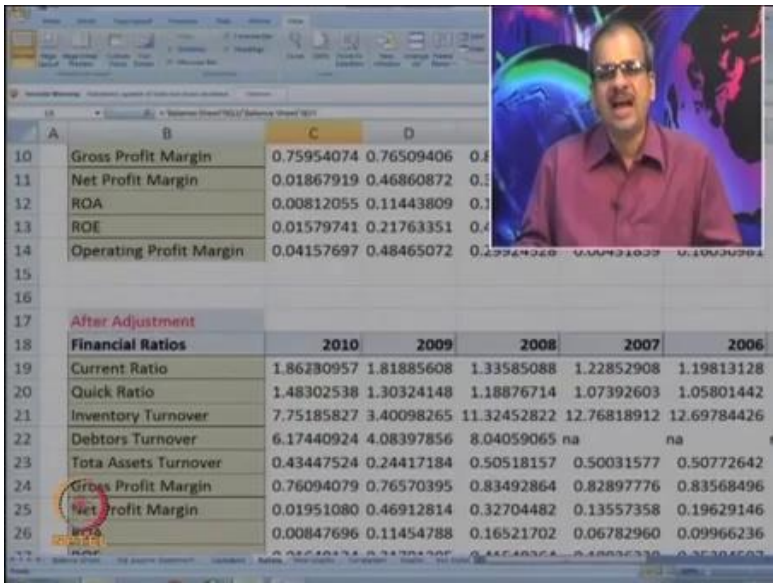
(Refer Slide Time: 42:26)




Now, here are the important ratios for the Merck. So, ratios has been calculated for all these years, we will just look at 2010, the latest year for which it is done. Now, I hope all

of you know that current ratio is current assets on up on current liabilities. So, that calculation is simple. But, look at how the calculation is done before adjustments and after adjustment.

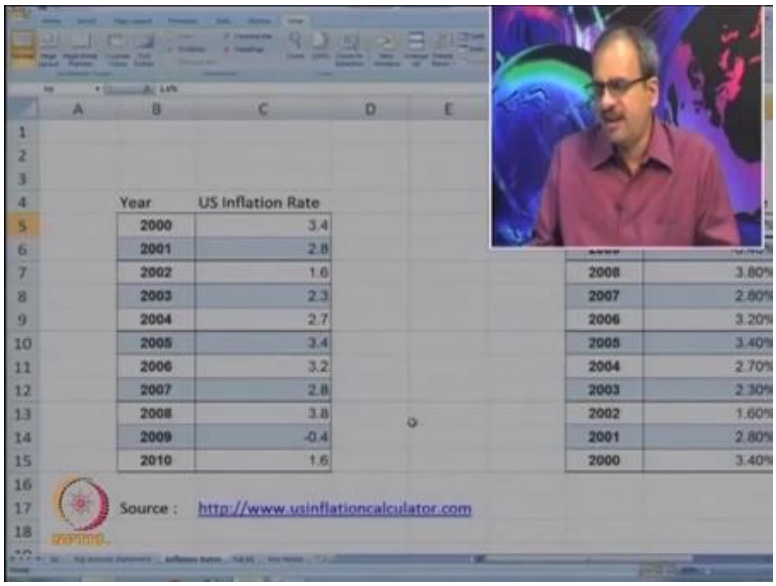
(Refer Slide Time: 42:49)




So, what is done in the table below is the adjusted ratios. So, there were some changes in their currents assets, after incorporating the changes. The balance sheet figures have changed. So, you can say it is B 14 upon B 77. So, if you go to balance sheet. So, if you are trying to look at current ratio, it is B 14 upon B 77. So, B 14 was the adjusted current assets. So, old current assets was 29064 before adjustment. Adjusted one becomes 29128 divided by B 74, which is the adjusted liabilities?

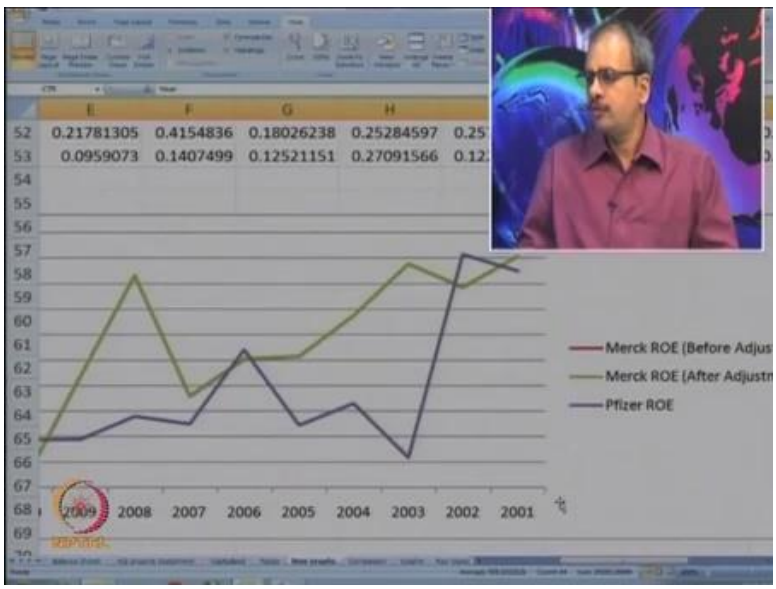
So, B 77 current liabilities, current liabilities there were no adjustments. So, same figure can be taken. So, here are the ratios, now I am not looking at the Pfizer data, though we can look at it. So, we have not done any adjustment to Pfizer. You can do adjustment to any one of them. A few items in Pfizer have also been adjusted like, inventory, you can see is 8.07 here the inventory, turnover after adjustment is 8.16 and so on. So, this is the data for Pfizer, this is the original balance sheet, this is the adjusted balance sheet, this is the adjusted income statement.

(Refer Slide Time: 44:26)



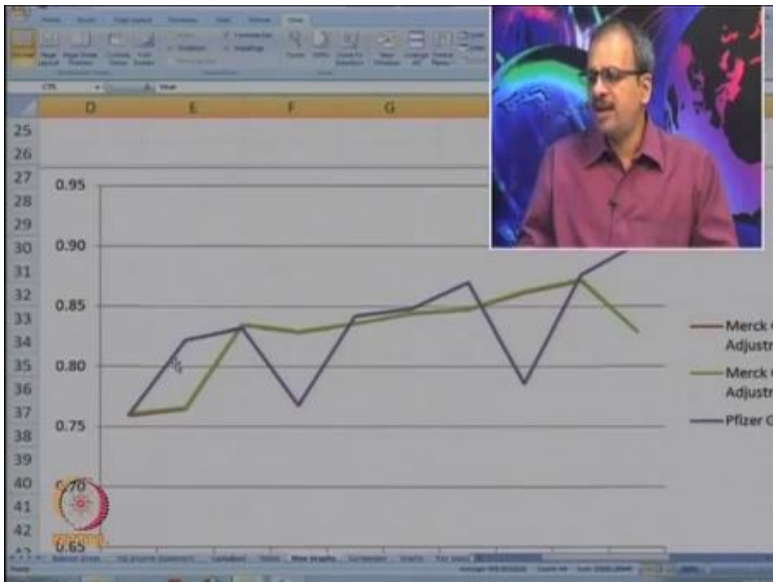

Inflation rates were considered US inflation rates, this you can download from the website. And look at them for making the stock related adjustments. So, we got the adjusted balance sheet and the ratios ((Refer Time: 44:48)). Here in again I am not explaining you the calculation of ratio, they have been dealt with in the earlier sessions. We are just looking at ratios before adjustment and after adjustment is it fine. Now, the purpose of this particular case study is to acquaint you with the fact that accounting policies are different, it is necessary to adjust the financial statements for such policies. And then the comparison is possible. Now, let us look at how does the charge look like.

(Refer Slide Time: 45:39)



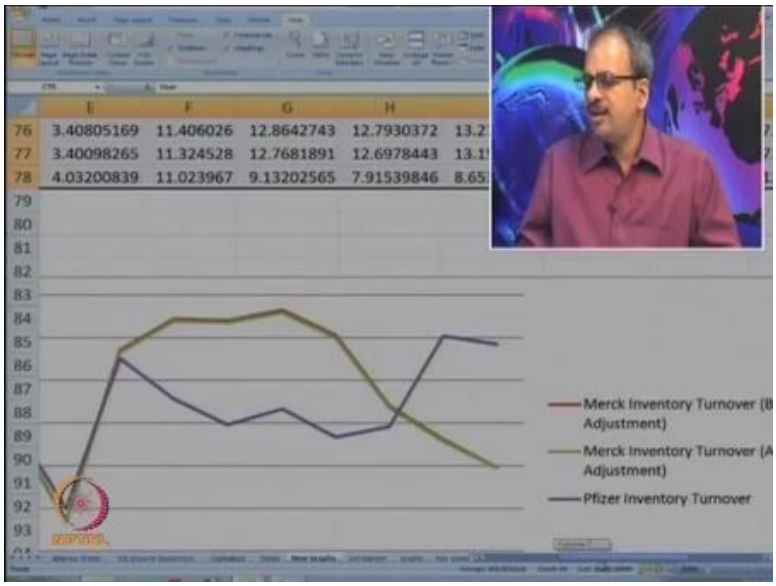
So, here are the few charges. So, you can look at gross profit margin, before adjustments, after adjustments for Merck. We have done adjustments in Merck to match it is policies with Pfizer. So, Pfizer has not been changed. So, here is how the graph will look like for Merck before adjustment is nullified.

(Refer Slide Time: 46:07)




Now, we are only looking at this before adjustment you can see in red. But, we need to compare the one which is in green. So, we are comparing with the blue and green, which is the after adjusted figures, it is not a significant very big difference. But, there are some differences in the ratios, same way here ((Refer Time: 46:30)) ROE has been calculated and compared for Merck before and after adjustments.

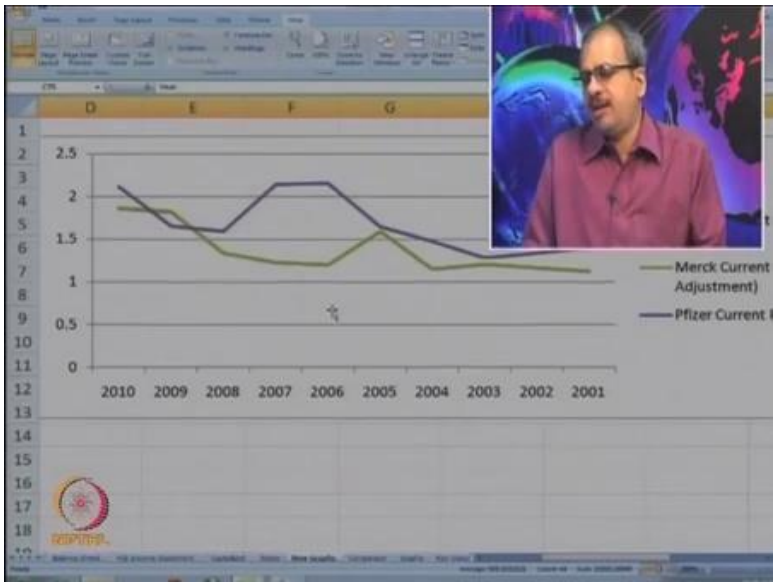
(Refer Slide Time: 46:40)




Inventory turnover ratio has been calculated, where you can see there is some difference. What is a formula for inventory turnover ratio? I think you are right it is a ratio of a turnover to inventory. So, sales upon inventory is tries to measure, how effectively inventory is managed. So, here you can see, the ratio was similar in 2010, but there were differences in 2001.

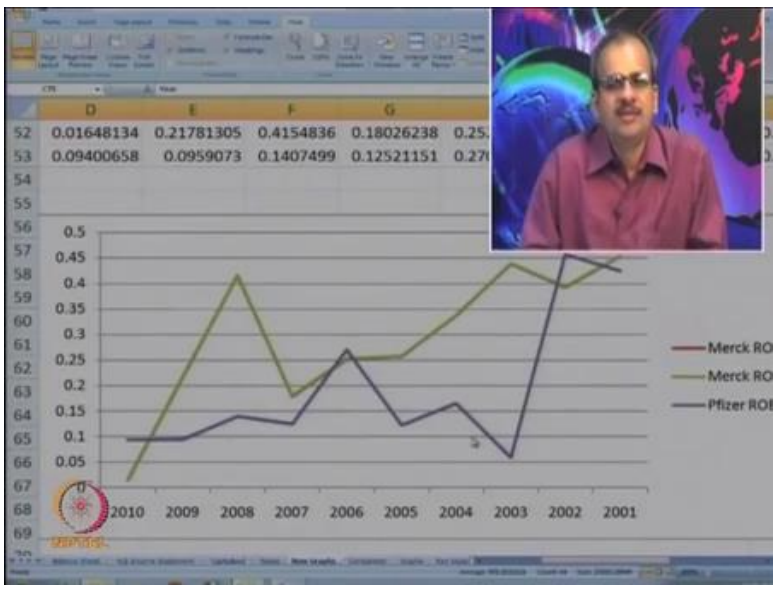
Actually the Pfizer is turnover ratios was much better earlier, where has in Merck it was very low. Then, the Merck improved it went above Pfizer, it went almost to 12 in 2005. But, post 2008 that is after recitation, the ratio has fallen for both the companies. You can see the fall is severe. And now the ratio for both the companies is almost the same. So, Pfizer has actually improved from 6 to 8, both have fallen and after 2009 there is some recovery, they are almost having the similar ratio. So, fairly similar type of ratio, now for ROI you can have some this is about the gross margin before tax. I think will start with current ratio.

(Refer Slide Time: 48:11)




So, these are the current ratios, you can see it was always higher for Pfizer and it has remain pretty similar it came down in 2008. Now, it has again increased, it has usually remain lower for Merck it is slightly increase in 2009. Now, it is more or less stable, this is about there GP margin, you can look at the GP margins there were pretty high margins, in 2001 about 0.9 percent was the margin at that time. And the margin was Pfizer was higher initially, the margin of Merck increased Pfizer went down. Then, they were almost similar, than again Pfizer went down post 2008 both have gone down. So, it is about 0.718. So, almost similar now in 2010 for both the companies.

(Refer Slide Time: 49:16)



Next is return on equity, this is where very interesting. It was almost same about 2001, when it was about 0.4. So, 40 percent very healthy return, than it went down for Pfizer again improved it also went down for Merck. It nearly matched in 2006. Post 2007 it improved significantly for Merck, but after 2008 recitation it has gone down, Pfizer has remained almost same.

So, now it is actually slight much lesser for Merck in 2010. We also looked at inventory turnover ratio, which we have already discussed. We can look at the comparative figures, if you want to look at the numbers. Here are the graphs before adjustment, we already looked at graphs after adjustments, which are more important. And this is some key statics for the company.

So, we stop here about this case. So, the point which you should take home is look at the accounting policies, if there are any major differences. Now, in this case both the companies were operating in the same gap regime. So, both are American companies. So, there were not too big differences. But, I have taken it has case study, because you can understand how the differences need to be analyzed adjusted and then comparison be made.

If you take one Indian company and one American company, there will be fast differences. Those differences will have to be adjusted, and then ratios calculated and compared. So, any whenever you compare the two companies, keep in mind about accounting adjustment, keep in mind there sizes. And they should be also form the almost similar type of industry.

So, with this we will stop our discussion on ratios. We have seen that ratio is relationship between the two figures, one from P and L, one from income statement or from the same figures and so on. And calculation of ratio really gives us much better incite in to the financial statement. The data from the financial statement can be far better understood, if you calculate the relevant ratios.

And today we have seen that, we also need to make adjustments, before the ratio calculation. These ratios are also useful for calculating the value of the company. We have not gone too much detail in to the value. That is a area of corporate finance, but we have seen one case, where in we can we have calculated DCF. That is Discounted Cash Flow valuation of the company.

Thank you so much. So, will stop here.