Financial Management for Manager
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Lecture 07
Financial Planning and Forecasting Part II

Welcome all. So, we are in the process of learning about the financial planning and in the previous class I discuss with you that in the financial planning what are the important steps involved and we were talking about that apart from your say or after say assessing about the economic assumptions or the economic environment revealing at the international and the national level. And similarly means assessing or forecasting the sales. Next thing is preparing the pro forma financial statements.

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PRO FORMA PROFIT & LOSS ACCOUNT

PERCENT OF SALES METHOD

	Historical Data			Pro forma profit and
	20X1	20X2	Average percent of Sales	loss account of 20X3 assuming sales of 1400
Net sales	1200	1280	100.0	1400.0
Cost of goods sold	775	837	65.0	910.0
Gross profit	425	443	35.0	490.0
Selling expenses	25	27	2.1	29.4
General and administration expenses	53	54	4.3	60.2
Depreciation	75	80	6.3	88.2
Operating profit	272	282	22.3	312.2
Non-operating surplus/ deficit	30	32	2.5	35.0
Profit before interest and tax	302	314	24.8	347.2
Interest on bank borrowings	60	65	5.0	70.0
Interest on debentures	58	60	4.8	67.2
Profit before tax	184	189	15.0	210.0
Tax	82	90	6.9	96.6
Profit after tax	102	99	8.1	113.4
Dividends	60	63		
Retained earnings	42	36		

For example this is one financial statement which is profit and loss account you can say pro forma income statement. Different methods are there for forecasting the financial statements. So, on the basis of the previous data on the basis of the previous 1, 2, or 3 years of the data you can predict about what is going to happen in the next year to come, you can forecast about that, what is going to happen? How much sales we are going to make in the year to come or in the say next one year that will depend upon your historical data.

And on the basis of that you can extrapolate that what we are going to do in the market. For example we are talking about here is, therefore example this is a, these are the two past years one year is this and second year is this, and here we have the now the say projection for the next year. So, it means in the year 2000 say 1 say we did this 2002 we did this and what we are going to do in the 2003 or 2013 or 2023, what we are going to do?

So, we are taking the common denominator as I told you is the sales. What is the methods? Name is percentage of the sales method. So, first of all what we need is the forecasting of the true figure of the sales. If you have the true figure of the sales or the, you can call it as the best acceptable figure of the sales.

In that case you are going to now means have the other estimates also same way means as the sales are correct fore casters sales are nearer about the correct sales same you thing are going to have the other estimates also.

For example, your cost of goods sold your gross profit your selling expenses your general and administrative expenses your depreciation your operating profit, operating a profit will depend upon the say how correct your sales for casting is. So, as a percentage of the sales you can take as a percentage of the individual years there what was our percentage in the say in 2001 or 2011 or 2021. How it was in the previous years that is in the 2012.

So, if you look at the proportion say for example the sales bar 1200, and here it is 1280. So, this increases there from the 2011 to 2012 and proportionately or cost has also change, cost of goods sold also has changed. So, if you calculate this percentage this normally remains sales checking it as a 100 percent your cost of goods sold is 65 percent gross profit is the 35 percent. Then the selling expenses you can convert them into percentages and when you extrapolate for the future period.

That is for the next year when you go for the forecasting of your sales and preparing your income statement profit and loss account, you can use this previous year's sales figure. You can take the individual year sales figure and on the basis of the percentage of the sales method you can start back tracking now and when you now back track you know it that if the sales are 100 percent what is the cost of good sold of the sale, what is the gross profit, what is the selling expenses, what is general and administrative expenses, what is depreciation operating profit and all that?

So, means these are the projected financial statements this is a projected income statement where we are going to find out that what is going to be my, this projected (())(04:14) profit after tax. This is very, very important figure for me, because if the profit you are able to estimate means exactly properly or correctly then certainly you can think about, how much dividend I will be able to pay to share holder?

How much retained earnings I will have with me and I will be able to means provide the funds for the reinvestment purpose in the organisation. So, all this is quantifiable possible and we are converting over theoretical estimates of sales forecasting include the pro forma financial statements and then we know it that if this financial statement is already in my hands on in our finance department hand they can circulate it to the others and then we can put this kind of the restrictions that our sale have to be minimum this much.

Our cost of production has to be controlled and this much has to be there we want to earn this much of the gross profit. So, when the targets are communicated to all your performance remains means revolving around these targets which is very, very important for attaining the overall goal of the maximisation of the financial say you can call it as health achieving the financial health or the maximisation of the shareholder's wealth in the organization. Other method could be that you can take the average you can take the combined sales.

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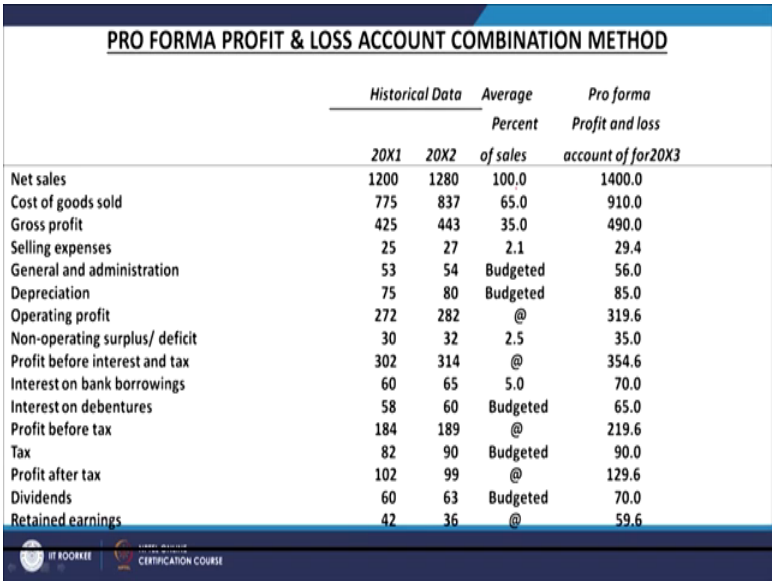

For example we are talking about pro forma profit and loss account combined method or the combination method. So, you can take you can combine the sets of the sales of the past two years take the average of that you convert that into the average percentages and on the basis of the average percentages wherever the percentages are possible to be worked out you calculate those percentages otherwise you can estimate them and then you can say convert them into figures for the next year for which we are going to project or you are going to prepare the projector financial statements.

So, like income statement we can prepare the projected balance sheet also. In the balance sheet many things not change because when you talk about the balance sheet you prepare the balance sheet for example.

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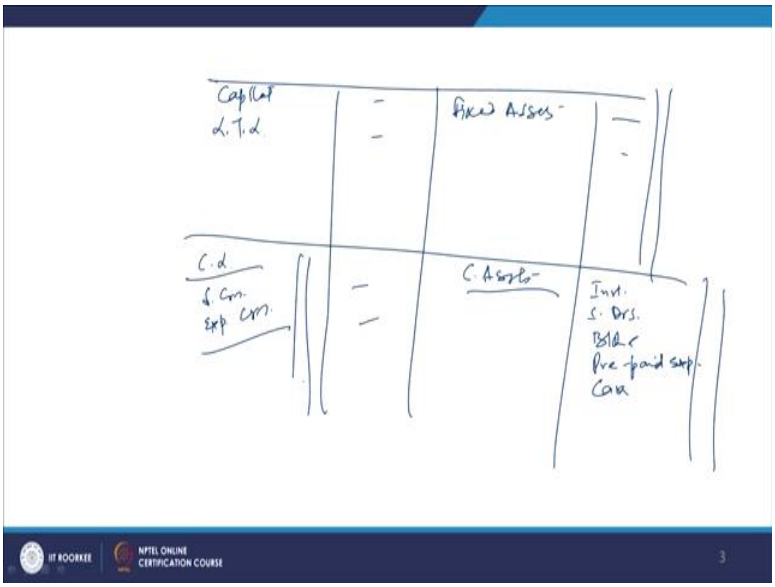

And we have the two kind of the, say components or the parts of the balance sheet if we divide this balance sheet into this part, we have the upper part where you talk about the say long term funds you talked about the capital, or the long term funds when you talk about the long term loans here are the long term loans and here talk about the fixed assets.

So, when you are talking about the long term loans you are talking about the share capital you are talking about the fixed assets you are means these changes are not going to take place every year.

They are not on the annual basis must be invest the share capital in the business we invest these funds in the business that we have given these funds forever and these funds will come back to us as a promotor when the firm will be liquidated. Talk about the long term loans when you borrow the funds as a long term loans you do not borrow for 1 or 2 years. You borrow for the next 10 and 15 years, or minimum 10 years period of time.

So, no need to spend time on this particular part upper part of the balance sheet but the lower part of the balance sheet which talks about the current liabilities and here you talk about the current assets. This is the most important thing current liabilities and current assets this is the most important thing because in the current this is the, first is inventory then it is calling we

calling it as a sundry debtors. We are calling it as a bill are receivables then we are going to talk it about the say prepaid expenses, prepaid expenses.

Then you are going to talk about the cash in hand and cash at bank all and then you are talking about the current liabilities. So, here you are talking about the in the current liabilities is a sundry creditors then you are talking about the expense creditors. So, all these creditors we have to estimate here and these current assets and current liabilities keep on changing when you are current assets and current liabilities are fluctuating current assets and current liabilities.

Some part of it remains permanent but large part of these current assets and current liabilities are fluctuating because the maximum life of these current assets current liabilities is 1 year, maximum 12 months. So, it means what was the level of current assets in the previous years that is not expected to be same in the next year. What was the level of current liabilities in the previous year or in the current year that is not going to be same in next year.

So, you have to spend more time on managing the lower part of the balance sheet and preparing the projected balance sheet where more time will be spent on the lower part of the balance sheet not on the upper part of the balance sheet. And in todays time CFOs most of the time is spent on managing the lower part of the balance sheet arranging for the funds from the spontaneous sources and the short term sources and making the optimum investment into the inventory into the sundry debtors into bills receivables into the prepaid expenses, or into the your keeping certain amount of cash.

Because if you make more investment into the current assets you arrange lesser amount funds from the current liabilities. So, what is going to happen here cost of funds is going to increase your say availability of the funds from the almost free sources is going to be non-adjusted in the firm.

So, there is going to a miss match between the cost and revenue and ultimate it is going to affect the profitability of the firm. So, we have to create a projected balance sheet for the coming year like the projected income statement as we are talking about here we have to like this projected income statement.

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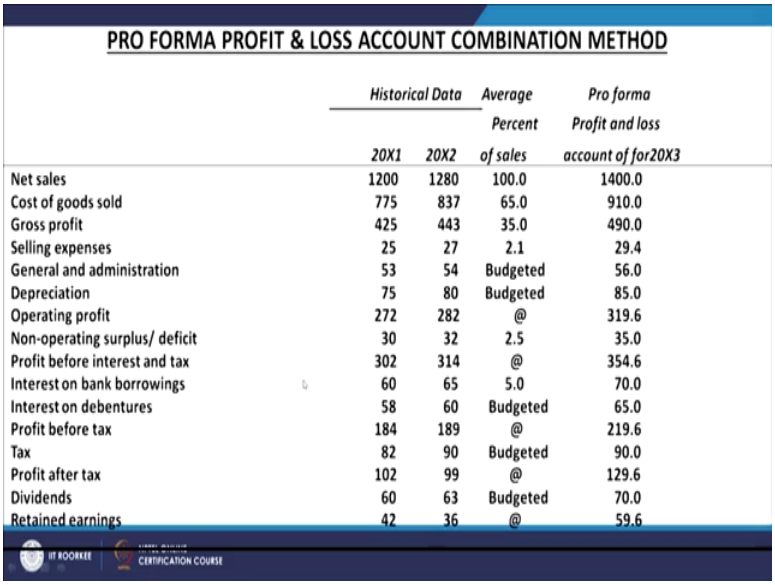

We have to convert means the adjusting the balance sheet the real balance sheet of the previous year in the current years into the projected balance sheet for the next year. So, pro forma financial statement are important and you have to say make use of this pro forma financial statements for the proper financial planning then we talked about the asset requirements.

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Then we talk about the assets requirement, asset requirement when we are talking about this we are going to do in the balance sheet and when we are going to talk about the assets requirement. We are not going to talk about the long term assets or the fixed assets because your land plant, building, machinery, furniture, vehicle they are not changing every day every year.

Once we add up any manufacturing capacity that remains the same for the next 5, 10 years but as far as the current assets are there you have to be very, very careful and meticulous because in case of the current assets if you keep more amount of inventory.

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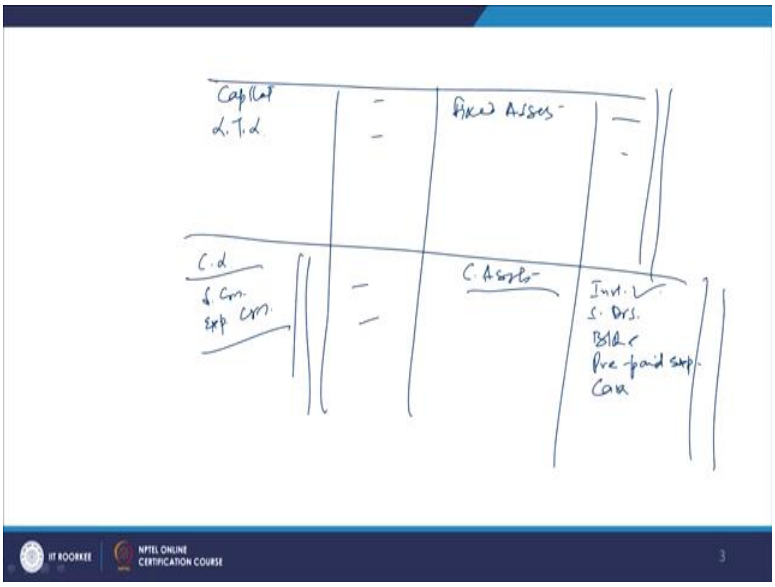

For example here we are talking about inventory if you keep high amount of inventory you are going to end up with the more cost less benefits. If you are selling more, larger part of your production on credit and lesser part of this on this cash certainly there is going to be a negative results of it. Do not keep higher amount of the cash as cash because cash does not earn anything for us.

It only has a cost nothing else and here generate maximum funds from the short term sources from the current liabilities. So, projected balance sheet and estimation of the assets is the one important requirement. So, asset requirement has to be assessed. Next thing is, now we will talk about is the say financial planning. In the financial planning now we are going to talk about the growth and the external financial requirements.

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Growth of the firm and the external financial requirements. Now, we have decided what do we mean by growth? Because growth here if you talk about the growth think about this particular model I would like to explain you the concept of the growth when we are talking about the growth, growth of the firm as a whole g, g is the function of growth.

So, g when you have to decide that growth at what level we are going to grow if you know that growth level because with the help of sales forecasting we can find out in advance that what was our sales level in the previous year?

What is going to be the sales level in the current year? What is going to be the sales level in the future next one year? So, that we know the growth rate when the growth rate is there because with the changed amount of the volume of sales, your other inputs are also going to change. There certainly going to be change in the inputs. So, we have to know think in terms of the growth and there is if any growth expected in the sales certainly your external financial requirements are also expected to increase.

Your external financial requirements are of, because we have the internal funds to a certain extent. First towards the initial capital which is given by the promotors or for example if it say we are public limited company, we have raise the funds with the help of IPO, Initial Public Offer and that is also fully exhausted.

Now, for the further growth funding the further growth operations you have number one sources apart from equity, promoters contribution and the general equity a next thing is the retained earnings.

So, whatever the profits we are earning but part of that we are in reinvesting back into the business that is only the internal source. So, for example you need 100 rupees to be invested in the next year into the firm to attain the target of the increased sales grown up sales, we have 50 rupees available from the retained earnings it means another 50 rupees has to come from the external source.

So, how much you are going to borrow in the next one year to support your selling process or sales forecasted sales with the help of this model we can assess the external financial requirements and there is always a need for assessing the external financial requirements not for the internal.

Internal we know that how much profit we are generally earning in the previous years in the current year and how much reinvestment out of that profit we are going to make that we know, and in any case we have to reduce the amount of dividend to be paid to shareholders.

We have to increase that say component of the retained earnings to be made into that say the investment process of the company yes that is in our hands only thing which is beyond our control is the external financial sources. So, we should be knowing in advance in the next year.

How much are our increased financial enhanced the financial requirements of that how much is available with us from the internal sources that is known and how much is more required to be borrowed from the market if it is known to us in advance we are the better financial planners.

Otherwise we are going to port everything means in the confusing state we will going to make the mess of the situation that we will require the funds for the increased purchase of inventory increase workers more input requirements we not have the funds we have not arrange the funds, we have not planned in the beginning.

So, we do not have the funds for that. So, this model will help you out for example look at EFR, EFR means External Financial Requirements which we can assess for the next 1 or 2 or 3 years period of time.

With the help of this model which is A by S and multiplied by delta sales minus that is the L by S delta sales multiplied by delta sales minus M into S1 into 1 minus D. So, what this all mean? This model stands for, EFR means External Financial Requirement. A by S means total assets, current assets and fixed assets as a proportion of sales. Total assets are going to be effected.

Higher the amount of sales higher the amount of the total assets will be there because fixed assets will remain fixed but the current assets will change as the amount of sales increases your inventory increases, your credit sales increase, your cash level increase. So, total assets will increase and when your inventory level will increase your credit sale will increase, your cash level will increase, your investment requirement will automatically increase.

Now, how much is going to the increased investment requirement 1. Second thing out of that increased requirement how much you can arrange from the short term sources that is the L by S current liabilities and provisions as a proportion of the sales because total requirement is going to be how much?

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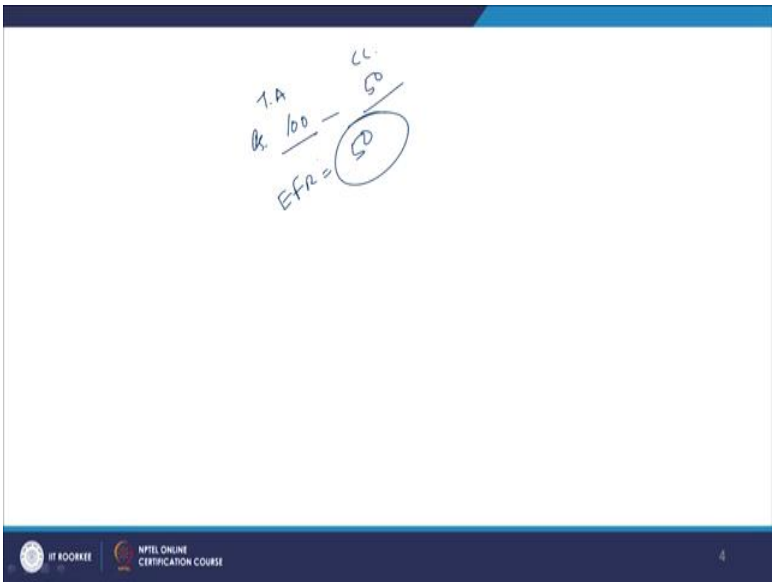

Total our assets level we are going to build up is because of the increased sales, our increased investment in the assets especially in the current asset is going to be 100. So, total change in assets is going to be 100 rupees. This is 100 rupees and if from the current liabilities, current

liabilities means the spontaneous finance and the provisions. Spontaneous finance is normally the supplier's credit then we by the raw material. Supplier gives us a credit and that raw material comes to the firm on a credit period of certain number of days in India the credit period is 45 to 60 days.

So, for example we know that out of this 100, 50 percent will be available from the this current assets or the total assets we are going to increase and current liabilities are going to give a 50 rupees. So, it means finally EFR, External Financial Requirement is going to be of 50 rupees which you have assessed in advance. If you have done this exercise beforehand then we are at a very comfortable position. Otherwise in the lack of financial planning the firm is going to be in a very difficult situation. So, what this model says external financial requirement.

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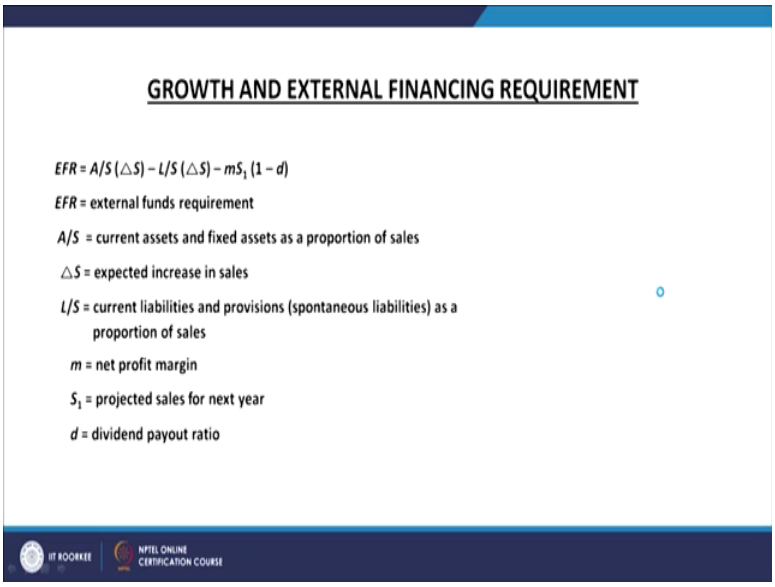

So, as a proportion of increased sales how much level of increased assets is going to be there, what is expected change in the sales is going to be there and as a proportion of the increased sales what is going to be the magnitude of the current liabilities and the provisions. Then M is the profit margin then S1 is the projected total sales for the next year and D is the dividend pay-out ratio.

Because external financial requirement to a larger extent will depend upon the profits and the dividend pay-out ratio. Higher the profit but higher the dividend pay-out ratio the funds left for the reinvestment will be very less. So, you have to depend more and more on the external financing requirements but if the higher the profit and he dividend pay-out ratio is very low

then larger part of the funds generated internally are available for the investment within the firm.

So, it means we are in a comfortable position. So, this model will help us to say assess in advance that in the next 1 year period of time what is going to be the sales level and as per the sales level the total investment requirement as they are going to change, how much funds are required to be generated externally from the external sources.

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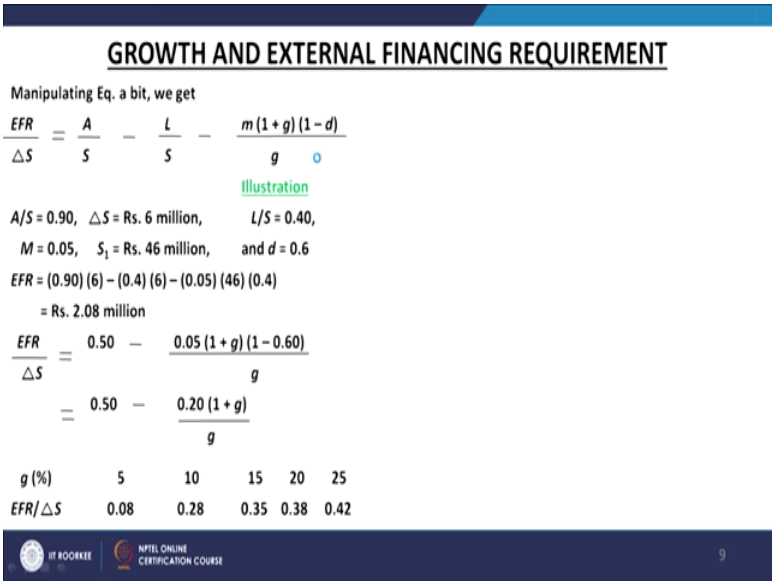

Now, for example we talked about in another way round that think here about that the relationship of the external financing requirement and the growth level of the sales, growth level of the firm. Growth of the firms is always means translated in terms of the growth of sales when the operations of the firm increase, when the sales level of the firm increased, when the sales level of the firm go up, so it means other things automatically go up. So, if you change this model little bit it is written here manipulation of the equation number 1 a bit.

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This equation number 1 which is given here is if you manipulate this equation then it looks something like this that external financial requirement as a ratio of the change saves of increased sales is equal to A by S minus L by S minus the remaining things. But one more thing we have added here is that is g means is the growth level of the sales growth level of the firm in terms of the growth level of the sales and the sales of the firm grow certainly your other investment requirements also grow.

So, whatever the other functions you talk about here whether it is external financial requirement whether it is the say increase in the total assets whether it is increase in the total current liabilities, increase in the profitability, increase in the dividends this all is the function of the g that is the growth of the firm or other around it is the growth of the sales. So, it means g is very important here.

So, with the help of the illustration we can use this model this equation that for example if you look at this that this model which is given to us you can find out with the help of this model EFR which is given to us with the help of this model you can find out that whatever is given to us the information given to us is that is the total change in the assets as a proportion of the increases sales is 90 percent.

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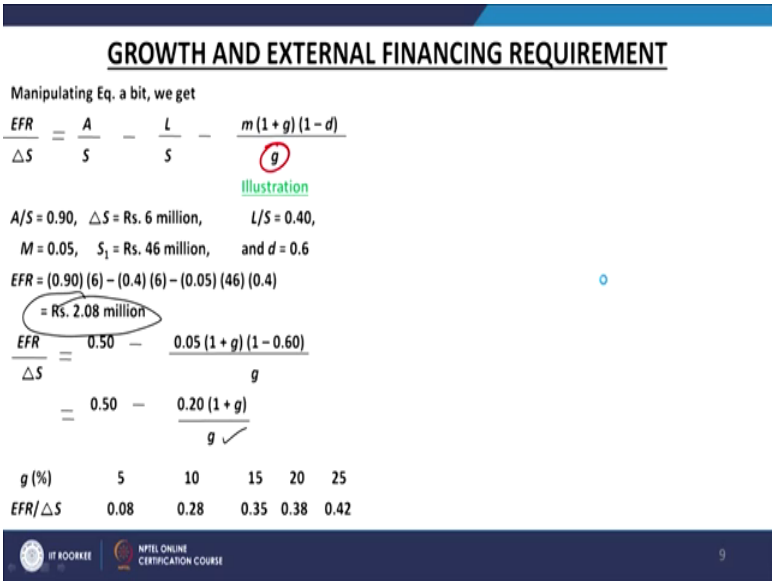

Then is the change in the sales is 6 million rupees and your total sales are going to be in the next one here is 46 million and your say profit margin is going to be just 5 percent and your dividend pay-out ratio is going to be 60 percent and your liabilities as a proportions of the say change the sales are going to be a 40 percent.

If you put all these values in this model you will find out that external financing requirement will be 2.08 million. This figure external financing requirement will be 2.08 million if you calculate this figure 2.08 million figure you can easily find out that this is the external financing requirement we have worked out, very simply you can find out.

So, if you have all these estimates with you your assets are level is calculated your liabilities level calculated your sale level already with us your profit increases expected your dividend ratio is known to us then finally we are going to be in a very comfortable position.

Now, the next thing is that when we are manipulating the previous equations the model with something means when we are taking the g adding the g into this growth because ultimately these are the functions of growth. So, if you are say manipulating that previous model this equation you are finding it out here is that this becomes this model like this EFR divided by the delta sales and here this works out as A divided by S minus L divided by S becomes 0.50 minus this is the profit margin is 5 percent.

1 plus g, g is the growth we have to find out and then this is the 1 minus dividend pay-out ratio is the this 1 minus D is the dividend pay-out ratio is the 60 percent. If you want to find

out with the help of this model you can find out the growth rate. Growth rate of the sales you can easily find out this growth rate of the sales that at what level the firm will grow the sales of the firm will grow.

For example, we have given here different estimates for the given level of g, given level of the growth of the sales for example if your g is 5 your this external financing requirement as a proportion of the changed sales will be going up by 8 percent if it is g is 10 percent then 28 percent g is 15 percent then it is 35 percent. For example, here it is this all calculation is based upon these two estimates.

What is your level for example if you talk about this level what is our total requirement? 2.08 is the EFR External Financing Requirement. So, 2.08 divided by 6 million this you can calculate is this works out as the total amount as 15 percent.

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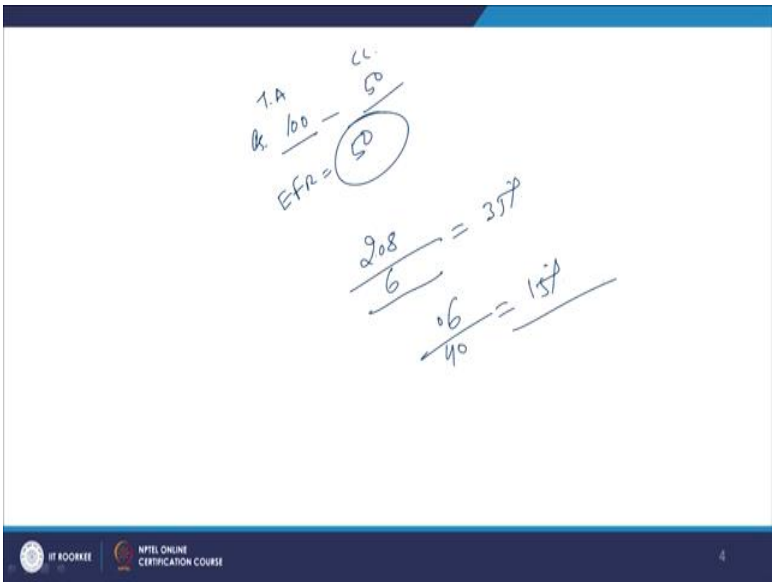

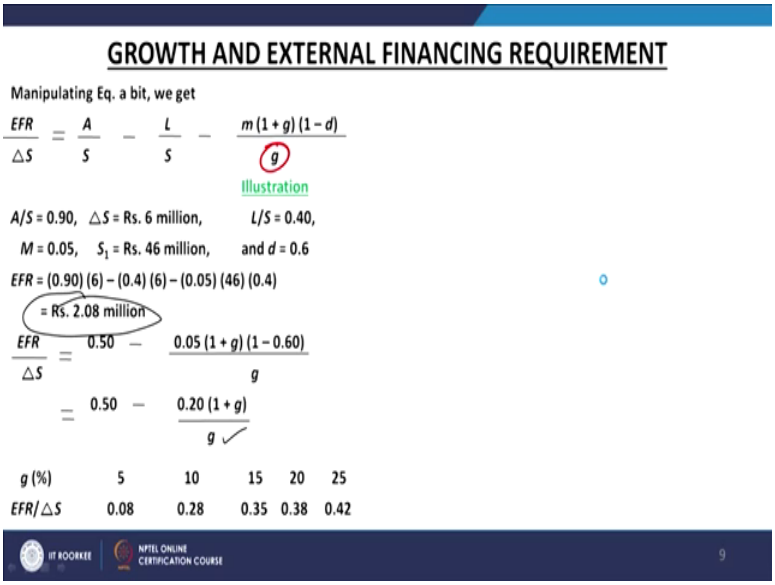

2.08 if you calculate this 2.08 divided by the 6 million this is a 6 million of the this is the total amount of the 6 you will find it out if you calculate this amount this works out as the 15 percent, sorry this not 15 percent this works out as 34 point some percent. So, this works out as 35 percent this becomes 35 percent and this we have calculated here is 35 percent and if you see that a say 6 million.

6 million means and what was the sales in the previous year 6 million and now because of this 6 million the current year sales have become 46 million it means in the previous years they must be 40 million. So, if you divide the say this change 6 by 40. So if you calculate this 6 by 40 this is the change and if you divide by 40 which was a previous year sales. So, it means the g is going to be how much 15 percent, g is going to be 15 percent.

So, if your sales are going to increase by 15 percent if the g is the percent here g is 15 percent your sales total sales S1 is the total sales in the forecasted period. There are going to be 46 million and your sales change between previous years or between the current year and the next year I am going to be 6 million only. It means the previous year sales are how much? 40 million. So, it means 6 million increases there. So, 6 by 40 there is a increase of g is going to be 15 percent.

If you put the g here as a 15 percent your final external financial requirement will go up by 35 percent and this works out as 35 percent 2.08 million of this 46 million, sorry 2.08 million of this 6 million changes says is this 6 million. So, this 6 million and this is the external financing requirement 2.08 million. So, this becomes how much 35 percent of this 6 million

of the sales. So, this by this is this by this and this becomes how much 35 percent and in this case this minus 46. This is 46 is the 40.

So, 6 by 40 is going to be how much 15 percent. So, it means your growth rate is going to be 15 percent. Your sales are the coming 46 million from the 40 million of the previous year or the current year it means the firm is going grow at the 15 percent rate of interest an if the firm grows at the 15 percent rate interest then the external financing requirement as the proportion of the increased sales is going to be 35 percent.

In this entire exercise we have proved it that 2.08 million is 35 percent of the 6 million and if you calculate this as say the 40 million, 46 has become because 6 we have added it means when you are adding 6. So, it means previously it was 40. So, 6 by 40 is going to be, you are going to call it as 15 percent. So, when g is 15 percent the external financing requirement is going to be the proportion of increase sales as 35 percent.

When the g is 10 percent the external financing requirement as a proportion of the increased sales is going to be 28 percent if it is going to be 5 percent g is going to be 5 percent then EFR as a proportion of the increased sales is going to be 0. you are going to call it as 8 percent total is 8 percent. So, similarly if it is 20 percent then the say EFR as a proportion of the change requirement is going to be, say how much this is 38 percent.

So, easily with the help of this model depending upon the growth of the firm and growth means in terms of the sales depending upon the growth of the sales of the firm your financing requirement can be worked out and since we know the internal financing requirement. So, only the external financing requirement has to be means worked out. So, the internal financing availability is known to us.

So, how much we need to generate the funds from the external sources that we can easily calculate from all these calculations and all from these figures. So, it is very, very important because the problem always comes in arranging the funds from external sources arranging the funds from the internal sources is not a problem. Now, important question here arises that if you are not able to generate these funds 2.08 million from the external sources if you find it difficult.

What we will do here is we know it in advance that our dividend pay-out ratio is 60 percent we will reduce it to 20 percent when you change the dividend pay-out ratio more funds will

be available from the internal sources and more funds are available from internal sources then the dependence upon the external sources will come down. So, this requirement will not be 2.08 million it will subsequently come down.

When it comes down then certainly we are at a very very easy means at a very comfortable position and the requirement the dependence upon the external sources is going to be much less. So, this all is going to be possible with the proper financial planning process. Here we now talk about here is that safe when we are, there are some limitation or something to born in mind before means applying this model we are saying here as the level of sales have changed level of the assets also change, level of the current liabilities also change and we are thinking that there is change is constant.

The change is constant that in but proportion the sales are changing in the same proportion your assets will also change your liabilities will also be change. Sometime it does not happen, so we have to be very careful while applying this model that certainly it may be possible that your this sales are increasing but may be some time your current assets are not increasing rather we are selling more form of inventory which we already have manufactured in the previous years.

So, when we are drawing more from the inventory and manufacturing at the same level but the sales have been increased. So, your inventory level will come down. So, we have to be very careful in that case because here we have given the point of caution that.

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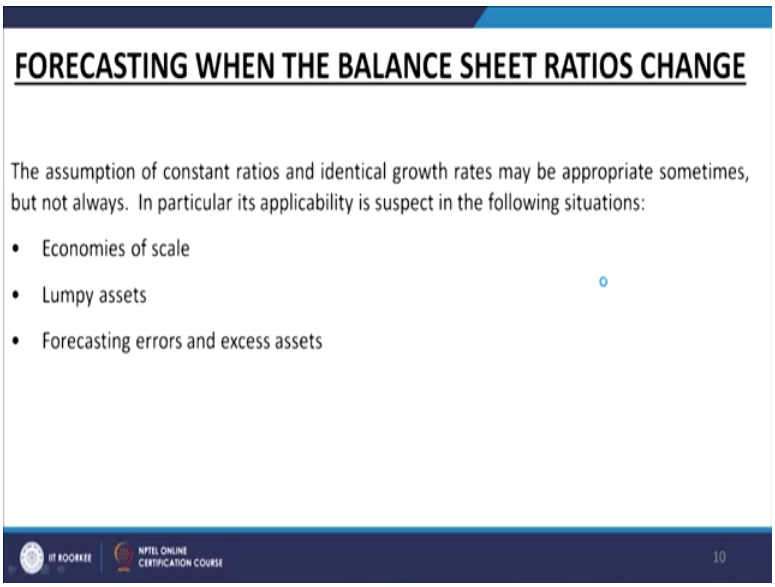

The assumptions of the constant ratios and identical growth rate may be appropriate sometimes but not always. In particular it is applicability is a suspect in the following situations economies of the scales. When we start producing more your cost of production starts coming down. So, sometimes we have use the plant up to the fullness capacity but sales are too high in the market still we are not able to sub the total requirement of the market.

So, total production current period production plus some amount we are withdrawing for the inventory. So, that is making the total sales for example your total requirement in the market of selling is a 120 units. We are able to manufacture only 100 units also by running the plant at the 100 percent capacity 24 hours. So, remaining 20 units we will be drawing down from the inventory which we have kept from the previous year production.

So, in that case rather than the assets going up in the proportion of increased sales assets will come down inventory will come down. So, we have to be very careful while applying this model but yes to a larger extend this models subs many requirements and it can full fill many say external funding requirements assessments and it helps us that if you know your investment requirements well in advance and you have to arrange that investment from outside the firm.

Then if you know it in advance you know that how much investment is required. How much are my internal sources and how much is the balance in short fall and from where this balance and the short fall will be made good. So, financial planning overall financial planning is good and we are at a very comfortable position.

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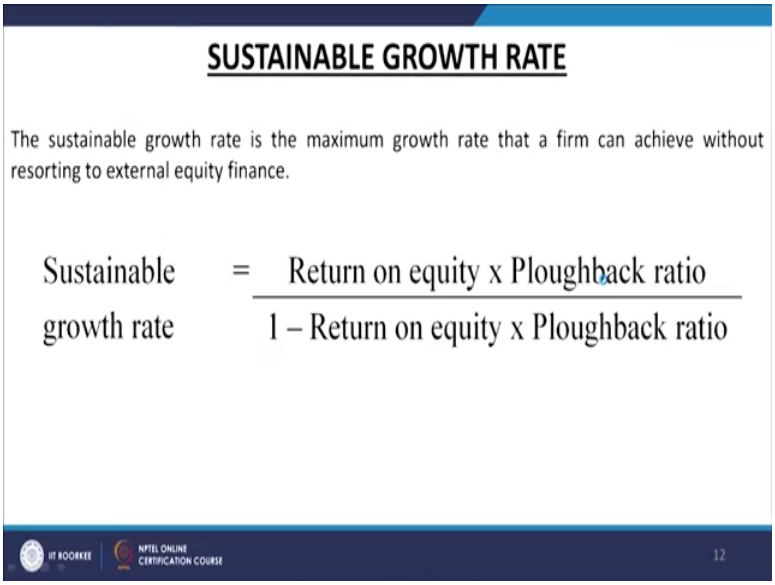

So, some part of it will be means some other things are also there for example internal growth rate and some sustainable growth rate and their role and this say the financial planning process these are some another corollaries available. So, which can add up for strengthening of your financial planning process.

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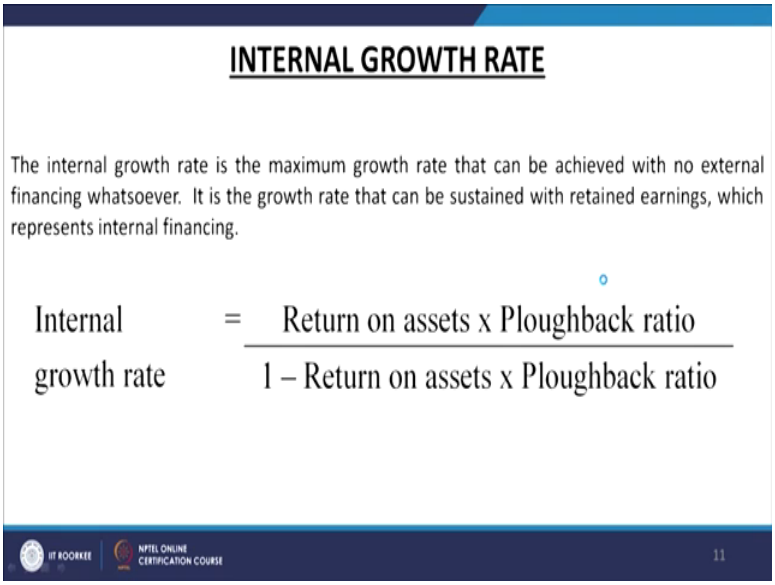

So, these two important components that is the internal growth rate and the sustainable growth rate and its role the role of these two further two important models in the overall financial planning of the firm I will discuss with you in the next class.

So, till now we have discussed is that what is the financial planning how the financial planning can be done and if we are knowing in advance that what is going to be our say

investment requirement in the time to come then we remain prepare for that we arrange the source, funds from the different sources as far as the internal sources are concerned we are more comfortable but if we know in advance we become equally comfortable for arranging the funds from the external sources also.

So, that is all for today and remaining whatever the discussion on the financial planning but plus one or two some practical problems I will discuss with you in the next class. Thank you very much.