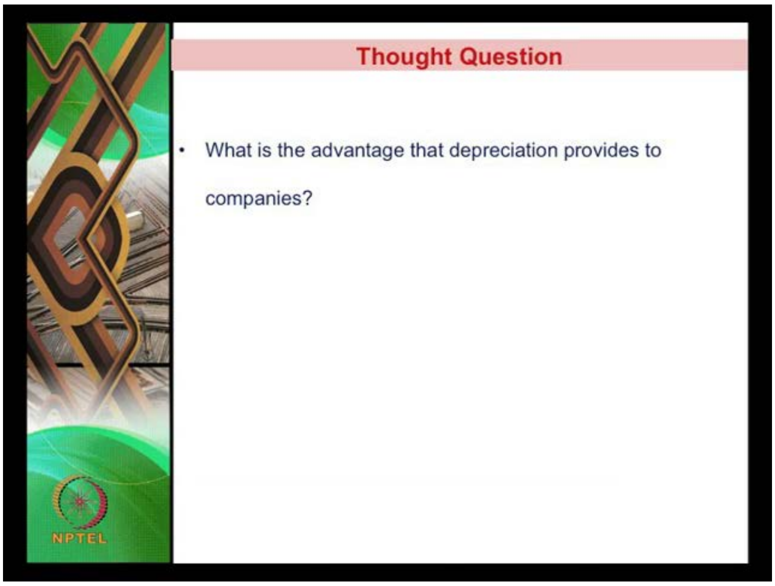
Infrastructure Finance
Prof. A. Thillai Rajan
Department of Management Studies
Indian Institute of Technology, Madras

Lecture - 6
Basic Financial Management - Part IV

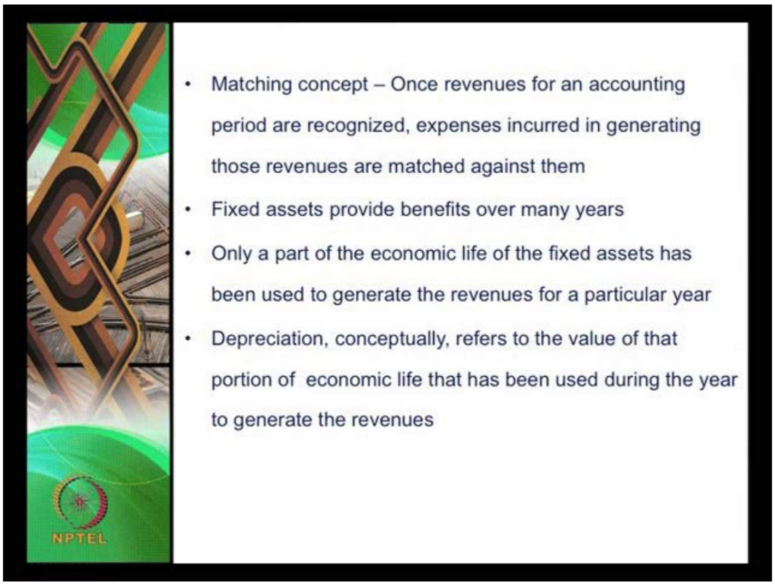
Hi welcome back to this course on Infrastructure Finance. This is lecture 6 on this course, and we will continue with what have being doing for last 3 lectures, which is understand some of the basic Financial Management. This is part 4 of this module on basic of financial management, but before we get into that let us spend some time trying to discussing that two thought question that we put forward in the lecture number 5.

(Refer Slide Time: 00:57)



Question number 1 is, what is the advantage that depreciation provides to companies, have you been able to think through that…

(Refer Slide Time: 01:11)



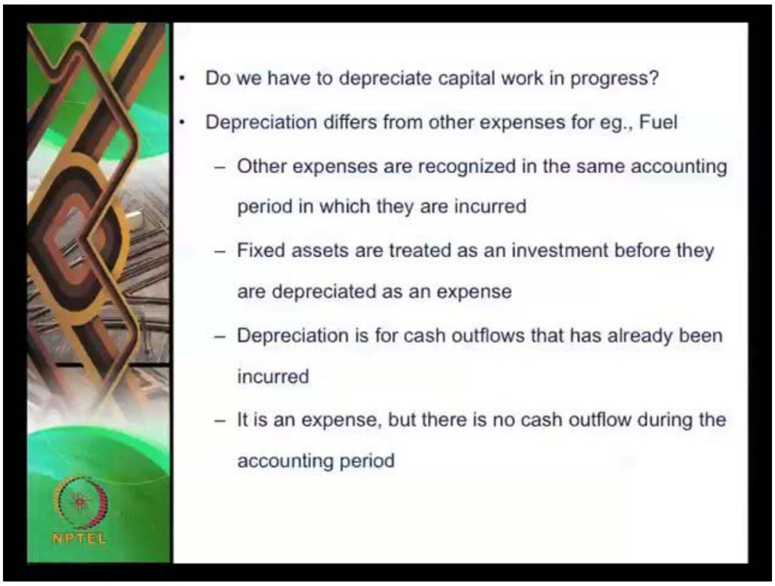
First of all let us understand the concept behind depreciation, there are several fundamental concept based on which financial statements are developed, one of which is the matching concept. We saw the matching concept in the balance sheet, which indicated that the sources of funds would have to match which that of uses of funds, so matching concept works little bit differently as far as the profit and loss account is concerned.

In a profit and loss statement the matching statement is used as follows, once revenues for an accounting recognized, we should also recognize expenses that are incurred in generating those revenues, that is the revenues are matched against the expenses that are incurred in generating those revenues. Now, if you look at fixed assets or consider as investment and they provide benefits over many years, fixed assets are needed to generate the revenues.

So, if you really look at the from the prospective, fixed assets is one of the contributors for generating revenues, and the investment that is being made in the fixed assets has to be recognized as well in generating this revenues. But, if you consider as the fact that fixed assets provide benefits over period of many years. We will have to account only a part of the economic life of fixed assets, that has been used to generate the revenues for a particular year; remember we talked about an accounting period concept.

And if you assumed that a profit and loss account is for one year then we will have to account for that portion of the fixed assets, which we would used in that one year out of the enter economic life of the assets. So, conceptually depreciation refers to that portion of economic life that has been used during that the year to generate the revenues, let us discussed by the simple example. For example, if actually purchase a car, and that car as an economic life of 5 year and for 1 year we would have consider used one fifth of the economic value of a car. So, the depreciation that we account for in particular year would be 20 percent of the value of assets, that we have acquired. So, depreciation essentially helps us to be consist with matching concept that is used in financial accounting.

(Refer Slide Time: 04:38)



The next question that we have to also answer is assets are have different kind, some assets are completed and some assets are classified as capital working progress. Let us look at what could be a capital work in progress in the case of NTPC. So, NTPC power generating company and constructing a power generating station takes many years, if you assumed that as an 31st march 2012, when the balance sheet have been prepared if a station has been only 50 percent of complete.

Then it would be classified under capital working in progress that is unless until the investment is fully complete it cannot be use for generating power, so they are referred as capital working progress. Do we have to depreciate capital working progress the answer is no, because unless until the asset of commission, unless until the plans start generating power, there are no revenues that are attributed to that asset.

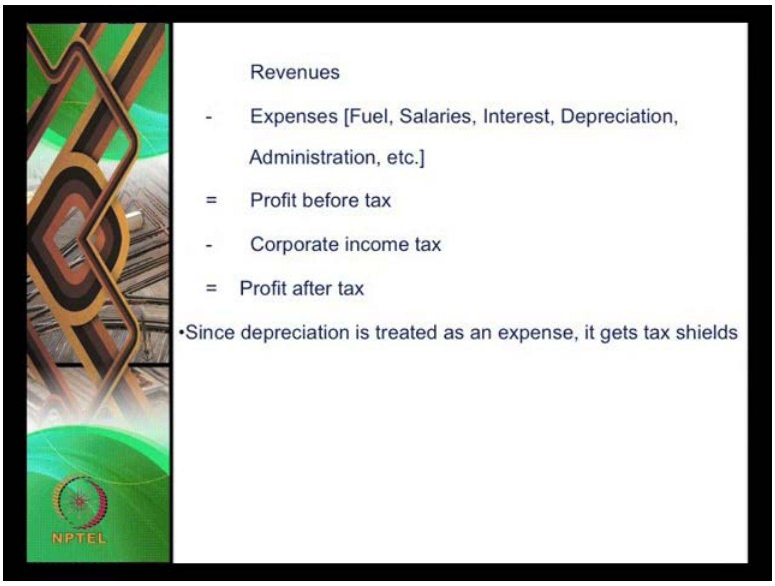
So, therefore, it actually violates the matching concept if it is starts depreciating the capital working progress, we should also remember that the economic life of the assets does not come into picture unless the assets is fully complete. So, therefore, from several prospective we have to kind of say that in the case of capital working progress or depreciation is not arrives. Now, there are some of other factors of depreciation that we have to also be aware of, first is depreciation defers from other expenses for example, if you look at profit and loss account we have several categories of expenses such as fuel administration expenses and so on.

So, depreciation defers from many of this expenses categories, how does defers difference number 1, other expenses are recognized in the same accounting period in which they are incurred. So, if you assumed that fuel is an expenses we recognize the expanse it has been incurred towards fuel, in the same period in which they are incurred. Whereas, in case of depreciation that is not the case; depreciation arises in the case of investment fixed assets and this investment need to be made a front before they can be depreciated as an expanse.

So, that is an investment made in the past would essentially treated for depreciation in the future, so this are all not cash flows that are incurred in the same period as that of revenues, so depreciation is a cash outflow that has already been incurred. Remember, if you have to depreciate fixed assets the fixed assets should have already been commissioned and the investment that are necessary for commissioning would have already been incurred, so that is the different has compared to several other expenses categories.

An important difference that also kept in mind is those depreciation is treated as an expanse there is no cash outflow during the accounting period, simply because that cash investment has already been incurred and it is not going to incurred during the particular accounting period under concentration. Let us quickly look at the schematic of the profit and loss account to understand some of the advantages of depreciation, so in a profit and loss account we have revenues which is income that the form gets by way of selling is product and services.

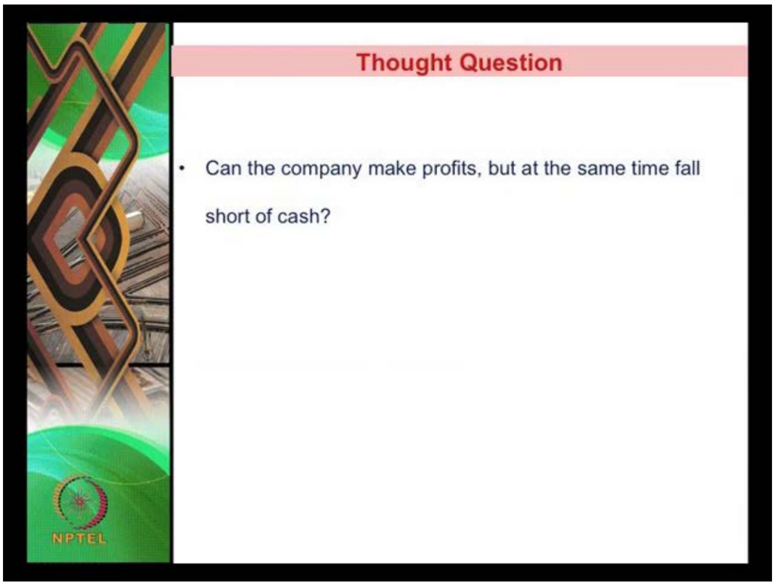
Refer Slide Time: 09:09)



And then we have several expenses such as fuel, salaries by interest paid on the borrowing and then depreciation and administration etcetera, so revenues net of expenses would give the profit before tax. Now, after computing the profit before tax we calculate the income tax that the corporation has to pay for the revenue, for the particular period and net of corporate income tax is your profit of tax. Now, if you look at depreciation, depreciation is consider as an expense so; that means, depreciation is accounted for before calculating the profit before tax.

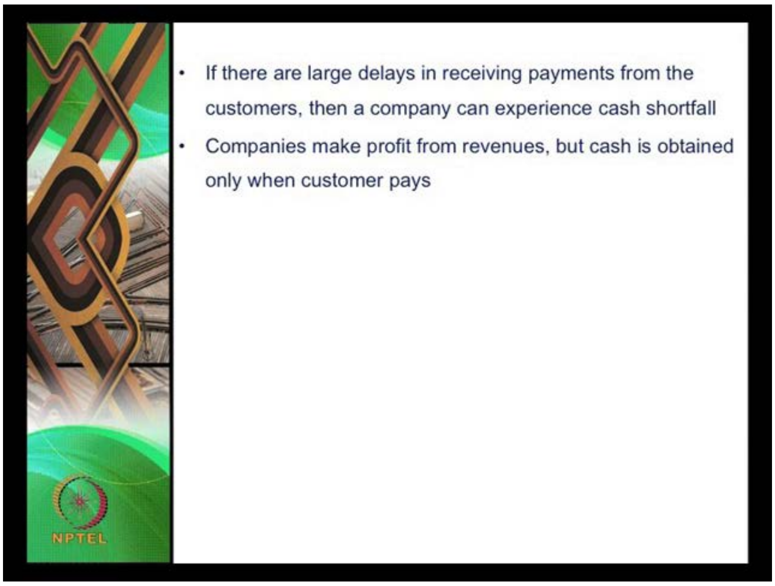
So, therefore, depreciation gives a kind of a tax benefit for the companies, because of the fact that depreciation is treated as an expenses the company pay slower tax has compared to what it would have paid if deprecation as not been accounted for. So, investment in fixed assets at as an incentive, for companies because the depreciation that the company can climb out of the investment enjoys tax benefits, so this tractions we cannot be extremely valuable for companies.

(Refer Slide Time: 10:42)



Let us go to the second thought question, the question was can the company make profit, but at the same time falls short of cash have you been able to think on this.

(Refer Slide Time: 10:58)



Let us discussed now, if there are large delays in receiving payment from the customers then a company can experience cash shortfall, how the companies make profit from revenues, but cash is obtained only when customer pays. Let us consider how the revenue occurs when the case of our company, the revenues occur has soon as the company supplies a product are a service to the customer.

And the customers accepts the invoice are the bill raise by the company, as soon as bill is accepted the company recognized the revenues the statement of account, but as we seen before most of the companies enjoyed credit for the various products and services that it consumes. So, though the company might actually received the products and services and consumed, it might not have actually paid the company because it is enjoying credit period.

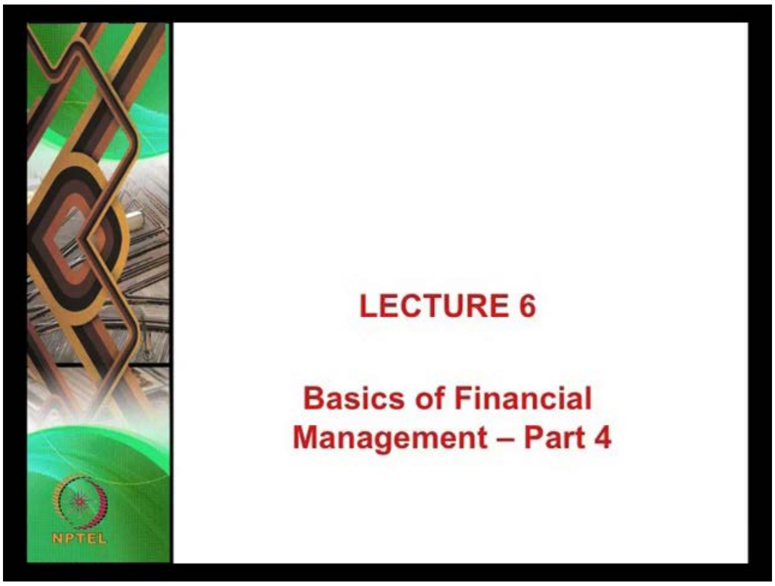
So, till the time the customer actually makes the payment, the goods and product supplied is reflected under the account receivable in the balance sheet. So, if the customer delays payment the level of accounts receivable keeps are increasing, but it does not anywhere affect the revenues because the customer as accepted and consumed the product and services.

The revenues keep on increasing and it can result in higher profit, but since the customer has not paid the bill, it would be the remaining has accounts receivable and leading to a short falling cash. When, the customers start paying a bill then the account receivable is adjusted accordingly and the cash levels increase, so this leads to the situation where we can have a company making profits, but we can also have situation, where they can have cash shortfalls.

In many public sector companies we can see the situation where they can be a high level of accounts receivable, let us take the case of NTPC, NTPC has a higher level of accounts receivable has compared to several other companies. What could be the reason? The reason is most of the customers, which purchase power are the state electricity boards, and the state electricity boards can delay payments that are due to NTPC.

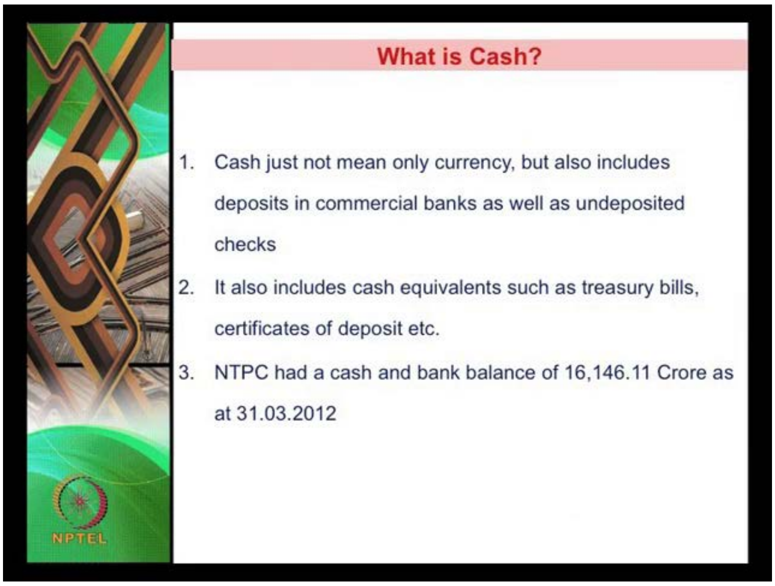
So, therefore, that could be instances where this high level of accounts receivable can actually have an adverse impact on the cash levels of the company, now let us go to what we supposed to discuss today, which is to really look at the third part of the financial statement.

(Refer Slide Time: 14:40)



In financial statement we have seen that there are broadly three statement, one is balance sheet, the profit and loss account, and the third the cash flow statement, so the cash flow statement is going to be the focus of this lecture.

(Refer Slide Time: 14:59)



What is cash lets for example, somebody ask you how much cash do you have, what would be response that going give, most likely you are going to say the amount of cash that you going to have in your wallet at that point in time. So, you may response that you have 100 rupees, you may have response that you have 200, 300 and so on, but from the perspective of the company cash is having a slightly different meaning.

So, what is the meaning, cash just not mean only currency, so as I was mention while ago, when somebody ask you how much cash do you have you may actually indicate only the amount of currency that you have at that point into time, but as for as company is concerned it includes apart from currency several either items as well. So, cash includes the deposit that company has made in various banks and it also includes the checks that the company as received for a from it is customer, but it is get to be deposited in it is bank account.

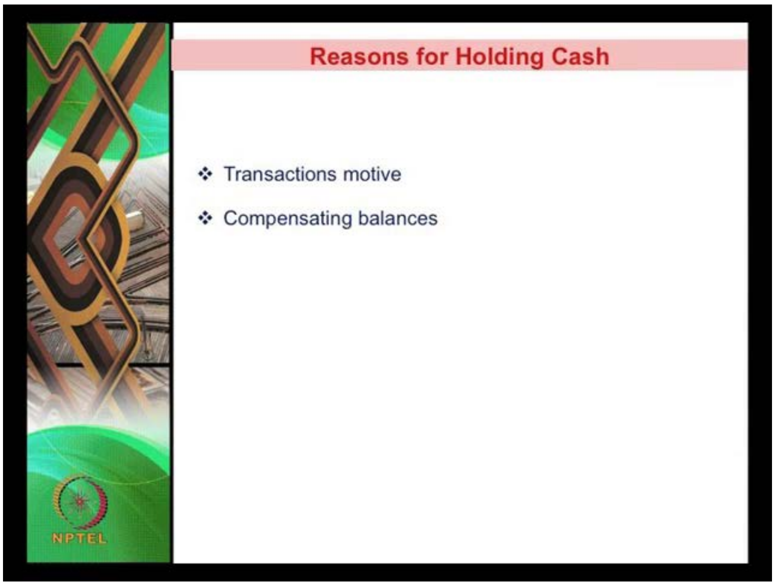
In addition cash also includes some of the other items such as treasury bill, certificates of deposits etcetera, so these are all investments which can be converted to cash at very short notice. So, for all practical purposes these are all consist to be has liquid or as convenient as that of having cash, what is advantage of having cash the advantage of having cash is that it can be is in used for several transactions.

And some of the cash equivalents such has treasury bills have the same advantage in that they can easily convert to cash at very short notice, so when we say cash companies prospective it just not mean only currency, but also includes other items such as the deposit in commercial banks and also cash equivalents such has treasury bills and certificates of deposit.

So, the next question that is have is why would a company have cash, if you look at the balance sheet of NTPC the level of cash the company has is indicated in the current assets, so NTPC has the cash and bank balance of 16,146.11 crore as of 31 03 2012. So, why should the company have such high levels of cash in a book of accounts, remember we will have to account for the fact that the amount has cash are cash equivalents does not yield any major returns has compared to that of, or investing in long-term investment of in fixed asserts.

So, this might the fact that cash is not give any returns accompanies have accumulated large amounts of cash what could be the reasons, the reasons are mainly two the first is the transaction motive.

(Refer Slide Time: 18:52)



Remember cash also represents or convenience the companies would need to pay it suppliers the company needs to pay salaries to his employees. So, the company needs cash for various purposes to meted day today obligation, at the same time the company also received cash from it is customers. Now, if all the cash that the company receives or deposited in lets say a long-term investments give a high returns, whenever the company needs a cash to meted day to day operations the company would have to necessarily liquidate some of existing investments and then use the cash that comes out of that process.

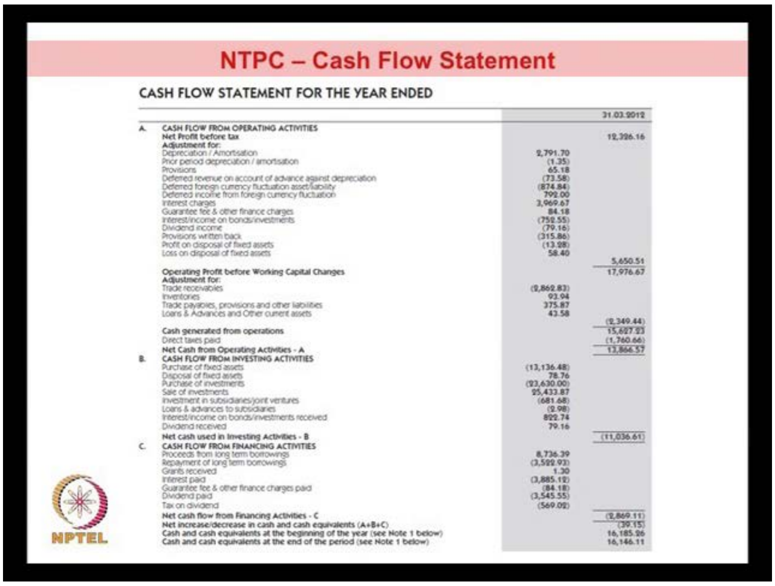
Now, this can be a time consuming and in some cases this can also result in transaction cost for example, whenever investment is a broken down our liquidator that can be additional charges that are charged. So, from purely transaction motive companies would like to avoid this kind of transaction cost, so the reason for holding cash is from transaction motive, it is very similar to many of is individuals.

At any point in time we keep certain amount of cash in a valid listened, why do you that we can always go to the bank whenever we need a cash requirement and then withdraw, but we all know that there is cost associated with that in terms of times spends by repeatedly going to the bank are an ATM machine. So, to avoid this kind of transactions cost there is certain amount of cash that we keep as a buffer at all types, same is the case with companies the companies would also have a certain amount of cash to carry the day to day operations which minimizes there transaction cost.

The second reason for company to hold cash is by way of the need for maintaining, what are called as compensating balances. Remember, the company would have to avail a services of bank for various purposes, with could be for obtaining for loan, with could be for obtaining other services such as over draft facility bank guarantees and so on, and so forth. So, whenever bank provide this kind of services to the companies, there is a requirement that the company makes certain amount of cash deposits in the bank.

So, these are called as compensating balances that is corporation would have to maintain certain amount of cash balances, under various deposits to avail the services that the banks normally provide, so this are the two main reasons for the companies to hold cash.

(Refer Slide Time: 22:28)


NTPC – Cash Flow Statement

CASH FLOW STATEMENT FOR THE YEAR ENDED

			31.03.2012
A.	CASH FLOW FROM OPERATING ACTIVITIES		
	Net Profit before tax		12,326.16
	Adjustment for:		
	Depreciation / Amortisation	2,791.70	
	Prior period depreciation / amortisation	(1.35)	
	Provisions	65.18	
	Deferred revenue on account of advance against depreciation	(73.58)	
	Deferred foreign currency fluctuation asset/liability	(874.84)	
	Deferred income from foreign currency fluctuation	792.00	
	Interest charges	3,969.67	
	Guarantee fee & other finance charges	84.18	
	Interest/income on bonds/investments	(752.55)	
	Dividend income	(79.16)	
	Provisions written back	(315.86)	
	Profit on disposal of fixed assets	(13.28)	
	Loss on disposal of fixed assets	58.40	
			5,650.51
	Operating Profit before Working Capital Changes		17,976.67
	Adjustment for:		
	Trade receivables	(2,862.83)	
	Inventories	93.94	
	Trade payables, provisions and other liabilities	375.87	
	Loans & Advances and Other current assets	43.58	
			(2,349.44)
	Cash generated from operations		15,627.23
	Direct taxes paid		(1,760.66)
	Net Cash from Operating Activities - A		13,866.57
B.	CASH FLOW FROM INVESTING ACTIVITIES		
	Purchase of fixed assets	(13,136.48)	
	Disposal of fixed assets	78.76	
	Purchase of investments	(23,630.00)	
	Sale of investments	25,433.87	
	Investment in subsidiaries/joint ventures	(681.68)	
	Loans & advances to subsidiaries	(2.98)	
	Interest/income on bonds/investments received	822.74	
	Dividend received	79.16	
	Net cash used in Investing Activities - B		(11,036.61)
C.	CASH FLOW FROM FINANCING ACTIVITIES		
	Proceeds from long term borrowings	8,736.39	
	Repayment of long term borrowings	(3,522.93)	
	Grants received	1.30	
	Interest paid	(3,885.12)	
	Guarantee fee & other finance charges paid	(84.18)	
	Dividend paid	(3,545.55)	
	Tax on dividend	(569.02)	
	Net cash flow from Financing Activities - C		(2,869.11)
	Net increase/decrease in cash and cash equivalents (A+B+C)		(39.15)
	Cash and cash equivalents at the beginning of the year (see Note 1 below)		16,185.26
	Cash and cash equivalents at the end of the period (see Note 1 below)		16,146.11

Now, let us look at the cash flow statement of NTPC this is as not short of part the cash flow statements, what is the first thing that you can observe. We have already seen the financial statements such as balance sheet and profit and loss account and this is the cash flow statement. So, if you look at first line of the cash flow statement it has a similarity with what we have seen in the balance sheet, with sorry with what we have seen in the profit and loss account.

The profit and loss account is a particular duration and so is the cash flow statement while the balance sheet snap short of a particular point in a time, both the profit and loss account and the cash flow statement is for a particular duration. So, in this case the cash flow statement that is shown is for year ended 31 03 2012, so we will spend some time discussing the various line-items that we see in this cash flow statements.

(Refer Slide Time: 23:52)

Now, if you look at cash flow statement it largely consist of three broad categories of cash flows, the first is cash flow from operating activities. So, cash flow statements indicates that cash flow from operating activities has 13,866.57 crores, the second categories of cash flow is cash flow from investing activities indicates a cash flow of negative 11,036.61 crores. So, what do you mean by a negative cash flow in finance, the general notation is all cash inflows are consider as positive and all cash flows are shown as a negative.

So, when we have a cash flow from investing activities has negative number, what this indicates is that the company has made more investment has compared to the access that it has divested, so the company is actually invested more than what it does actually sold of it is previous investments. The third category is cash flow from financing activities, again if you look at it the cash flow from financing activities a negative number it is negative 2869.11 crores.

So, again this it indicates that the company actually has not raised capital during the year, that instead it has actually paid more to it is investors has compared to the amount that it has raise from the investors, so the net cash flow from financing activities is negative. Now, if we net all the cash flows from this three different cash flows operations, investments, and financing what we get is a net addition in cash and cash equivalent which is negative 39.15 crores.

So, for the year ending 31 March 2012, what we see is the situation where the company actually used more cash is negative number, and therefore, interpretation is the company as actual use cash then it has actually obtained during the year. Now, the opening cash and cash balance is 16185.26 crores, so the opening cash and cash equivalents is a number that we can also obtained from the balance sheet.

If you look at the balance sheet for the year ending 31 March 2011 under the current assets category, you will find the value of a cash and bank balance is 16185.26 crores. So, this will form the opening cash and cash equivalents, for the year ending 31 March 2012, that is the cash and cash equivalents balance at the end of previous year would form the opening cash and cash equivalents for the subsequent year. And if you add the addition in cash and cash equivalents during the year, we would get the closing cash and cash equivalents, so the closing cash and cash equivalents is 16146.11 crores.

Now, you will find this closing cash balance in the cash flow statement, also matches with cash and bank balances is value in balance sheet, so this indicates that there is the integrity, there is a connect between the three financial statements. They are not three separate individual statements, that they all statements that are connected, they are statements that provide different aspect of financing of the companies businesses.

So, when we try to understand and the company is financial position, it is important that we look at all the three financial statement in total not in isolation, now let us look at the details of the three cash flow streams, what are the differences items that are accounted for in this three cash flow streams.

(Refer Slide Time: 29:23)

First we will start with cash flow from operating activities, so I have listed out here some of the major items that come prize that cash flow from operating activities, the first is profit from business. Remember, during the year the company generates revenues and after meeting all the expenses it makes a profit, so this is the profit from business, so this is obtained from the profit and loss account. The profit and loss account indicates how much of profit the company has actually made during the year, and that actually is contributing to the cash flow from operating activities.

The second item is the deprecation, if you really look at what we have discussed on depreciation, you would be aware that depreciation is an expanse, but it is not result in any cash outflow. But, while we calculating profit after tax, we always account for depreciation as an expanse, but since depreciation does not result in any cash outflow, while determining the total cash flow from operating activities depreciation as to be added back in there calculations.

The third is a item pertain into dividends and interest income, the company would have made various investment either by way of purchasing bonds, or it could have also made investments in the equity capital in other companies. So, examples of this could be the company investing in subsidiary companies, remember there are some restriction in since terms of companies making direct equity purchases stock markets, but the company can actually invest in share capital of it is subsidiary companies.

So, any dividend income there the company receives out of such investment in subsidiary companies is also considered as a part of cash flow from operating activities. After considering all of this we also have to make adjustment of working capital, what is working capital working capital is nothing, but the amount of current assets and current liabilities that we have in the balance sheet.

A networking capital is often referred as current assets net of current liabilities, so whenever we have working capital it also affects our cash position. We have seen the beginning of the lecture how even though the company making profits it can lead to a shortfalls, so we will have to make for adjustments changes in working capital while determining the cash flow from operating activities.

So, what kind of adjustments to be have to make, we have to account for any increase or decrease in trade receivable, remember whenever increase in trade receivable; that means, the customer has not paid the company. So, there is a short of cash the books of a company because the customer is not at paid, so any increase in trade receivables is therefore, consider as cash outflows.

It is not necessarily cash outflows, but that is a cash there is stuck in accounts receivable, but it is not available to be used for other purposes. Since, it is not available to be used for other purposes it is treated as a cash outflow, same is with inventory, if look at any increase in the level of inventory is treated as equivalent that of cash outflows. Now, we also have to remember fact that, the vice versa also was good, if there is a decrease in trade receivable than it is considered as equivalent that of cash inflow, because a customer actually started paying early.

So, to that extent additional cash is available for the corporation to be used for it is other purposes, same is the case with inventories, if there is load amount of inventory than there is an additional cash that gets released into the system. So, when we are determining cash flow from operating activities, we will have to account for the changes in the working capital levels in addition to the other cash flows that we get from the profit and loss account. Next we will look at the second category of the cash flow statement, which is the cash flow from investing activities, what are the cash flows as to be accounted for under investing activities.

(Refer Slide Time: 35:40)

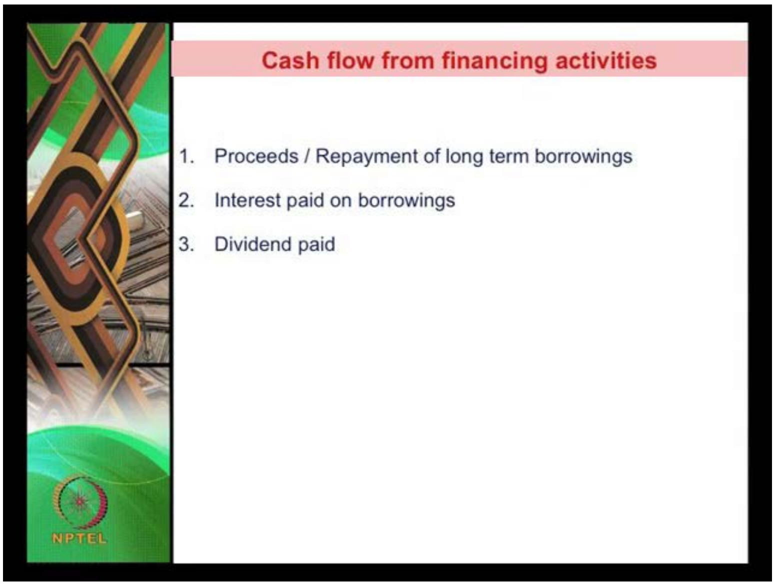
The main cash flow under these categories include purchase of fixed assets, remember fixed assets are investments the company makes to support the operation of business. And this assets are seen as the more of an investment and not as expenses, because purchases of fixed assets is a cash flow related to investment activity, it is shown under the cash flow from investing activities.

So, any purchases of fixed assets results in cash outflows, and therefore cash flow statements they should be shown as negative value. Their disposal fixed assets in the same way leads to a cash inflow into the company, because we selling a fixed assets and return for selling the fixed assets company receives the cash, so disposal of fixed assets will lead to a positive value in the cash flow from investment activities. The company also makes various non-current investment, example could be investment in subsidiary investment in joint-venture and so on and so forth.

So, any investment in this kind of subsidiary are joint-venture will lead to outflow, and will be sure negative value. Whereas, any divestiture are exit from the subsidiary and joint-venture will be seen as the cash inflow to the company and thereby shown as positive number in the cash flow. The company could have also making purchases of other investment such as investment in long-term government bonds, investing in a certain type of mutual funds and so on.

Since, these are all investment that are of a long-term nature this would clubbed under that cash flow from investing activities, and any purchases would lead to cash outflow and any sale of such investment will lead to a cash inflow. And whenever there is outflow are in inflow, it will be shown with the appropriate sign in the cash flow statements, now I will calculating and determining the cash flow is very, very important for as to use appropriate signs each of the values. A positive sign for cash inflow or equivalent to the cash inflow, and a negative sign for cash outflow or equivalent that of cash outflow.

(Refer Slide Time: 39:03)



Let us now look at the major cash flow category under the cash flow from financing activities, the cash flow from financing activities represented those cash flows pertaining to the various financing activities. Remember, we talked about two fundamental aspect related to financial management in the company, which is investment and financing, we have looked that the cash flow pertaining to investment.

Now, we will also have to consider the cash flow pertaining to financing, so cash flow from the financing could be how the form rises capital the form raises capital by way of equity, it could also raises capital by way long-term borrowing. So, any cash flows that are associated with these sources of financing are clubbed under the cash flow from financing activities.

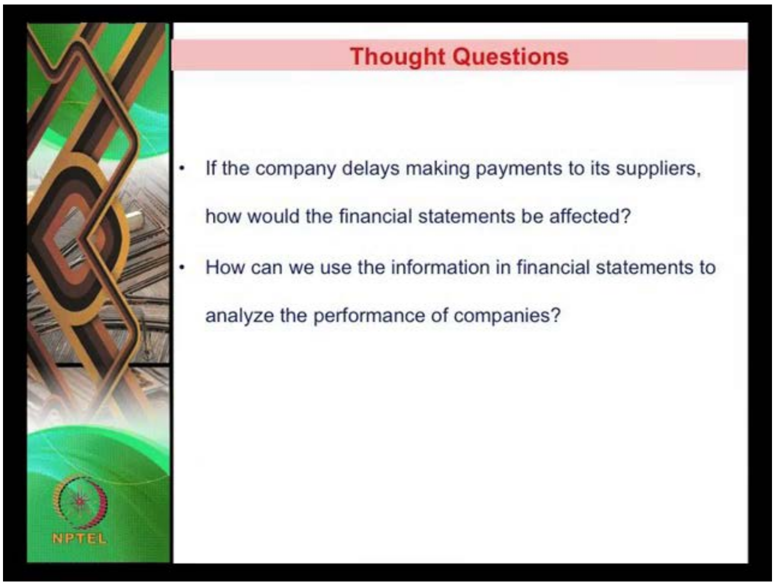
If the company is making a long-term borrowing then it leads to cash inflow, so the amount the company as borrowed is shown as a positive cash flow under the cash flow from financing activities. At the same time if the re-company repays some of it is earlier borrowings, than it result in cash flow and that is shown as an outflow in that is shown in negative value in cash flow from financing activities.

Similarly, if the company as raise capital from various shareholders the form of equity it is shown as a positive flow, but if the company declared the dividend and paid dividends to existing shareholders it is consider as an outflow. So, whenever we are having dividend distribution it is shown as an negative value, whenever the form raises capital it is shown as a positive value.

We also have interest paid an borrowings the interest that is paid on borrowing is very similar to the dividend than the company pays to equity shareholders. Since, that that is return on capital the form has obtained in from it is investor and this is the cash flow that is pertaining to it is financing activities, and therefore, it is shown under the cash flow from financing activities.

So, taken together the cash flows pertaining to operations, cash flow pertaining to investment and cash flow pertaining to financing, represent all the cash flow streams then the company would get from various operations of the company. For us to get the holistic view of the company’s cash flows, we will have to look at all the three cash flows together and not in isolation.

(Refer Slide Time: 42:48)



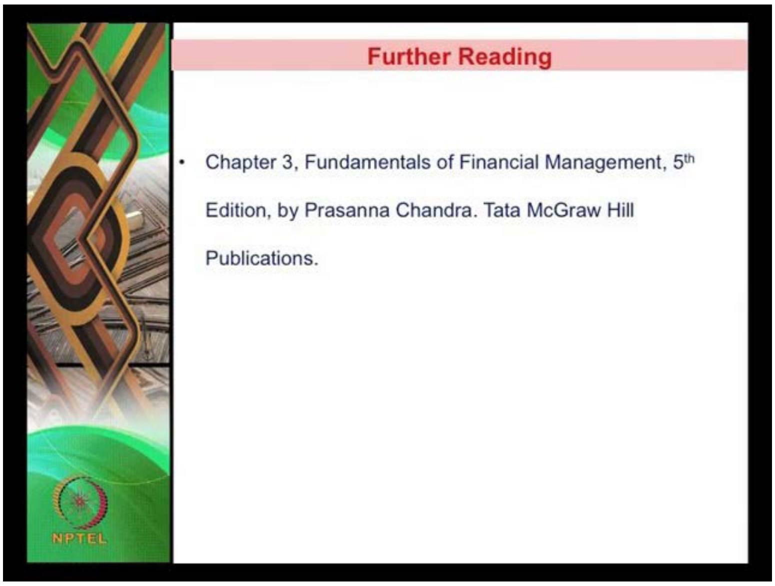
Now, let us look at the thought question for this session, question number one if the company delays in making payments to it is players, how would the financial statement be affected. Now, we will have to consider the fact that when we say financial statements they include all three that we have discussed, so for balance sheet, the profit and loss account, and the cash flow statement, so I want to do think about if the company is the delay payments it is suppliers.

Let us assume the company has previously making payments to it is suppliers in two months, if it is start making a payment by the end of three months, how will this get reflected in financial statements, which are the line-item will affected. And we should also be in position to estimate, the direction that it would affected that is will there will be increase or there will be decrees, let be a positive or will be an negative sign.

The second question how can we use information in financial statements to analyze the performance has companies, now what is the objective of looking that various financial statements, has a manager our objective in looking at and understanding financial statement is to be able to evaluate a company’s performance. So, how do we actually look at the information from these financial statements and understand about company’s financial performance, what information the use and what can interpret from that information.

So, this will also be focus of our next lecture, that before we do that I would want to you to think as to what we can interpret from the information from the financial statements.

(Refer Slide Time: 45:59)



If you want to know more financial statements, you can continue to refer to the reading material that have suggested in past few lectures.

Thank you, and see you in lecture 7.