### Introduction to Accounting and Finance for Civil Engineers Prof. Sudhir Misra Dept. Civil Engineering Indian Institute of Technology-Kanpur

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# Lecture-35 Accounting statements-case study

Good morning, namaskar and welcome to the course once again, in the previous lecture if you remember we discussed certain terms such as what are fixed assets, what are current assets, what are long term liabilities, what are short term liabilities and so on. In this class we are going to discuss how a real life profit and losses statements look like, how a real life balance sheet looks like. Subsequently we will do one small problem also with the help of which you will be able to understand quickly how these statements are prepared.

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Now if you look at the profit and loss account you will find that this contains the statement of earnings and the statement of operations. This is also known as income and expenditure statement, as you already now know that this is prepared at the end of a relevant period. For example you prepared the profit and loss account for a period let us say one quarter or it could be

for one whole year may be from first of appraisal of a particular year to 31st of March of next year.

So it has to be there a particular period, this is unlike the balance sheet which is prepared as on a particular day. These profit and loss statements are basically to know what whether the companies making profit, what is the profit before tax, what is the profit after tax, what is the earnings per share and so on. So this gives an idea of the profitability of the particular company.

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If you look closely at the profit and loss account or you will find that this is statement contains the following information. It will show you what is the gross profit made by a particular company for a particular period, the details of cost that were incurred. It would include the cost incurred on the wages of labors, the cost incurred on procurement of materials, cost incurred on hiring of equipment, cost incurred on engaging various sub-contractors and so on.

This particular interest statement will also show the incomes form other investments of the company. It may so happen that a company may have certain prime business, may be the construction business. But in addition to this the company may be also engaged in some other businesses. For example it may own some kind of ready mix concrete plant. So, these are not the prime business but they also have interest in these areas.

So, whatever income they generate from these business propositions that also to be included when you prepare the profit and loss statement. Then the statement also contains details of interest your outstanding expenses, the prepaid expenses, the incomes that you receive in advance for example it could be mobilization advance, it could be equipment advance and so on. It has to also show the outstanding income it has to show the details of depreciation, so you will have fixed assets.

So every month or every period what is the depreciation that detail also it contains, then it also contains some provision for bad and doubtful debt. It might so happened that company got engaged in some business and the client did not pay the money and the company is also not hopeful of getting that money back. So those kind of money we are classifying them under bad and doubtful debt, so this particular statement also contains the details pertaining to these doubtful debts.

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Now if you look at the profit and loss statement of any typical construction organization. It would look something like this let us say I am showing actual example for a particular company. I am not going to name that company, but this is what information you will see in the profit and loss statement. For example the first thing that will be shown in the statement would be the income from operations.

So, this is the main operation it say the companies into construction. So how much income they generated from this business. Now you will find they mention some kind of schedules also, for example against this income from operations you can see a term J is written, so that means the details pertaining turning to this income will be given in schedule J. So, schedule J will have all the informations pertaining to this particular item, likewise there would be different schedules.

Schedules are essentially the details pertaining to that particular item. Now profit and loss statement is basically the summary derived from all those schedules. So this is part of J schedule, so income from operation that company has made which is 2394.5, all this values are given in crores. Now it is the custom to show what was the income for the corresponding period in the previous year.

So, if you see this is as of 31st of March 2018 now the previous year the corresponding figure was 2028.14. Those of you who are not familiar with this crore basically it is 10000,000, 10000,000 is 1 crore and 10 00,000 is 1 million. So this is how we have these terms right, then you see this company share in profit or loss of integrated joint ventures. It may so happen that this company is into joint venture with some other companies.

So it will also generate profit, it may generate profit it may generate losses also. So, that also is brought here then there are other incomes in addition to the joint venture income, in addition to the main business income. If you are into some other businesses, so those details you can find it in schedule K. So, you have to look for schedule K in the annual report. And from there this figure is coming 19.88.

So if you add all these 3 values you will find the total income is coming to be 2401.88 crores. The corresponding figure for the previous year is this much 1996.21. Now let see what are the other terms it contains.

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Preparation of p	rofit and loss a	iccount (con	nt)
EXPENDITURE			
Construction Expenses	18	337.03 160	01.11
Employees' Remuneration	on and Welfare	08.68 13	1.42
Office and Site Establish	ment Expenses 96	5.65 71.	.57

Then the details of expenditure comes, when it comes to expenditure you find there are different types of expenses that are incurred. It could be expensed towards the material procurement, it could be the expensed towards the labor wages, it could be expensed towards procurement of plant and equipment. It could be expensed towards payment to the sub-contractors you are also having to pay for these employees remuneration and welfare expenses.

So all these details are available in schedule M, so especially for the key employees it will have the details who are the top management people, what is their salary, what are their (()) (07:2) all these details will be available in schedule M and from there this value is coming. Then different sides you would require different expenses in setting up the office in setting up the site all those are added up and this is coming from schedule N for this example this is 96.65.

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Preparation of profit and los	s account (co	nt)
Interest	+ 61.97	41.39
Depreciation	79.66	52.45
	2283.99	1897.94
PROFIT BEFORE TAX AND EXCEPTIONAL ITEM	117.89	98.27
EXCEPTIONAL ITEM		
Transfer of Development Rights	$\square$	40.00
PROFIT BEFORE TAX	• (117.89)	138.27
Provision for Current Tax	18.19	12.00
Provision for Deferred Tax	20.42	3.33
PROFIT BEFORE EARLIER YEARS' TAX	79.28	122.94

Now interest you might have taken loan from different agencies, so you have to calculate the interest for that particular periods. So, let us say this particular schedule is O, so I am getting this particular value from my schedule O, then likewise you have a separate schedule for depreciation. So for this period what was the depreciation and along with this you also show what was the depreciation that took place for the previous year, all these are added.

And then you find this is the expenses, so if you remember we did some small examples when you have to prepare the profit and loss statement effectively what we are writing is we try to find what was the sales that was made right. And how much expense you incurred in order to achieve those sales and you take the difference, so essentially your profit is nothing but the difference of the sale that you did.

And the expense that you incurred, so this is what it is done here also only thing we are saying it as profit before tax and exceptional items. So this value I am getting it by subtracting my expense from the total sale value or total income which I already showed you in the previous slide. Now sometimes the companies also show this particular term called exceptional item. And under this you can see transfer of development rights.

This is one example there could be other examples also for exceptional item. These exceptional items we are saying to those items which are basically not routine, say for example if a

companies into different construction businesses. But on some vocation in a particular year let say company sold one of its assets let say it sold out its head office premises. Now there move to some other premises and the old one they have sold it out.

Now this sale will come under exceptional item, because this particular company is not into selling of its own establishment. So sometimes such type of things may also come under exceptional item, then you also find in this case I have given you the example of transfer of developments rights, suppose you develop something and you have the patent for that and on some vocation you sold it out, so in the previous year if you see this amount was sold for 40 crores.

But this year there was no such sales, so this row is blank here. Now this will give you profit before tax. So, this value is coming for this particular year, previous year it was this value. Then when you have calculated the profit before tax then you show the provision for current tax, so you can calculate based on the current taxation regime, what is the tax that you are liable to pay as a company.

And then you also see what is your provision for defer tax, some tax you will not be paying now. But you will be having provision to pay it at a later date, those things are also coming here, so this way you will be able to come to this figure profit before earlier year's tax. This year it is 79.28, previous year it was 122.94.

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Preparation of profit ar	nd loss acc	count (	cont)	
AMOUNT AVAILABLE FOR APPROPRIATION	-		-	
Less: Appropriations:				
(a) Proposed Dividend	-	$\sim$	-	
Basic EPS Rs.			-	
				-

Now whatever you got it from the previous slide if you see this is profit before tax and profit after tax. Now as a management of the company you have to decide whether the whole profit will be retained with the company or where you would like to part with some of this profit. So, you may like to distribute it as dividend, so that aspect has to be also shown here. So, you can see you have to give the details of proposed dividend I have left it blank.

Once you have done this then you also show what is the basic earnings per share when you say EPS it is basically your earnings per share. So this will be able to calculate once you know how many shareholders are there and what was your total earnings. So this figure also is reported in every period whenever the company publishes its annual report. Now when you say annual report basically it is a compilation of various accounting reports.

It will have profit and loss statement, it will have balance sheet, it will have directors report, it will have auditor's report. We will find this whole document will run in about 200, 250 pages, earlier it use to come in as hot copies these just the practices that they are made available in soft copies.

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Now we move to the balance sheet, now you are already familiar with basics of balance sheet it is basically a statement which is prepared to know the exact financial position of the business on the date of preparation. This aspect is important because balance sheet is basically a kind of a snapshot, so the date at which you have prepared the balance sheet is to be mentioned very accurately.

This balance sheet when you look they help you to understand what is the status of the company as far as the assets are concerned as far as the liabilities are concerned, what value the company owes and what value the company owes to others. Now normally this liability is listed in the order of liquidity same thing is done with the assets also there also written in the order of their liquidity, earlier we use to show liabilities to the left and assets to the right.

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This is was how the balance sheets were prepared, these days we are showing assets and liabilities one of the other. So earlier we are showing them left and right now we are showing top and bottom, when it comes to liabilities you are already familiar with the share capital the reserves and surplus. The various types of loans for example this secured loans the unsecured loans all these things have been already covered in the previous lecture.

When it comes to current liabilities we have creditors, we have bank overdraft, we have bills payable, so these are part of your liabilities. When it comes to assets you have fixed assets such as the land and buildings your plant and machinery, furniture and fixtures. You have certain investments, long term investments, then you have certain current assets like debtors stock. Stock could be for raw material, it could be for work in progress.

It could be for finished goods stocks, then in addition the most liquid form of asset you have the cash and then you have the bank balance. So, these are part of your assets. Now we will see how these things are put together and balance sheet is prepared. Normally you show them under this kind of heading also.

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Introduction to Account :: IIT Kan MOOCS –	ing and Finance for pur and IIT Delhi :: An MHRD Initiative	Civil Engineers	0
Balance sheet	t as at 31st mar	ch, 2018	
	As at 31.03.2018	As at 31.03.20	17 1
	Rs. Crore	Rs. Crore	
(SOURCES OF FUNDS)			
Share Capital A	25.63	ζ 25.	63
Reserves and Surplus B 🛩	878.45	864.	18
Total Shareholders' Funds	904.08	889.	81
			11

The sources of funds, so what are the sources that you employed to generate the funds and then the application of funds. So balance sheet essentially gives you the various sources of funds, how actually you raise the fund and where you exactly use spend those funds. When it comes to sources of funds it could be share capital, then reserves and surplus which you get it from your profit and loss statement.

Then you have total shareholders' funds, so if you add these 2 you get this value. Now here also you can see the dates are important. This balance sheet is as on 31st of March 2018 whereas a joining figures are for the same date for the previous year 31st March of 2017 a corresponding figure you can see it is 889.81.

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	sneet as at 31	st march, 2018	(cont)
	Silver as at si	13t march, 2010	(cont)
(a) Secured C		482 48	196.39
(b) Unsecured D		1068.58	999.51
Total Loans		(1551.06)	1195.90
Deferred Tax Lia	bility>	85.54	67.73 .
Total		2540.68	2153.44

Now you have to show what are the loans there are 2 types of loan 1 which you take it against certain collaterals, we call them as secured loans, then you have unsecured loans they are the loans which you get it without any form of guarantee. So, this gives you the total loan, now you also calculate what is the deferred tax liability you add them ups, so total value is here for this particular day and for the previous year.

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Ralance sheet as at	31st march 20	(cont)
Dalance sheet as at	STat march, 20	10 (00111)
APPLICATION OF FUNDS		
FIXED ASSETS		
(a) Gross Block E	1101.19 🛩	772.81
(b) Less: Depreciation	- 355.03 -	280.75
(c) Net Block	746.16	492.06
(d) Items Awaiting Completion Commissioning	or 151.27 +	107.43
Total Fixed Assets	897.43	599.49
Investments	> 228 64	126.47

Then that was as for as sources of funds were concerned now we will see where exactly I utilize those funds. So, where did I apply those funds, so I applied those funds to acquire certain fixed assets. So, the value of fixed asset you can see the details are given in here schedule E it is coming to be 1101.19 crores, the depreciation has been calculated separately it is coming to be about 355.03 crores.

So net value of fixed asset you can subtract this 1101.19-this 355.03, so net value of fixed asset is coming to be 746.16 crore. The in construction project you also have certain items which are awaiting completion or commissioning, so your this much money is to be incorporated here total fixed asset some of these 2 so, you get it 897.43. In addition the company has invested some money in some other investments. So, the details are given in schedule F this is coming to be 228.64.

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MOOCS – An MHRD Init	lihi :: liative	
Balance sheet as at 31st marc	h, 2018 (cont.	)
B. Loans and Advances H	347.61	199.10
Total Current Assets, Loans and Advances	2306.22	2238.70
LESS: CURRENT LIABILITIES AND PROVISIO	NS	
Current Liabilities	843.90	773.98
Provisions	47.71	37.24
Total Current Liabilities and Provisions	+ 891.61	811.22
Net Current Assets	▶ 1414.61	1427.48
Total	2540.68	2153.44

Now we have to show the various current assets loans and advances these are short term period assets like for example inventories. It is coming to be 1738.61, then you have debtors equivalent to 0.54 cash and bank balances this much value other current assets this much. So, total of current assets for this particular day is this value 1958.61. The corresponding value for the previous year was 2039.60, now we show the details of various loans and advances these are short term liabilities.

Then you can also see here the details of provisions the total current liabilities and provisions then you get the net current assets and then you total it on that particular day. So this is how you

prepare the balance sheet you are showing the sources of these funds and then you also show the application of those funds.

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SCHEDULE -	G			
Current assets	Current Year (Rs. Crore)	Previous Year (Rs. Crore)		
INVENTORIES (As Valued and Certified by the	e Management)			
(a) Stores, Spares and Embedded Goods, at Cost	299.09	169.15		
(b) Fuel, at Cost	5.05	1.91		
(c) Materials in transit, at Cost	3.82.	1.28		
		16		

Now I had shown you different schedules, for example I showed you schedule of current assets and the details are available in schedule in G. I will show you how schedule g will look like, likewise there would be different types of schedule available where the details for turning to that particular account at will be mentioned. I will show you 1 typical schedule which is schedule G here this is giving you the details of all the current assets including inventories.

So, this is the total inventory of stores, spares and embedded goods, then you have the details of fuel details of materials in transit.

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Balance sheet as at 31st march, 2018 (cont)				
CURRENT ASSETS, LOANS A	ND ADVANCES			
A. Current Assets G	3			
(a) Inventories	1738.61	1030.72		
(b) Sundry Debtors	0.54 🗸	2.80		
(c) Cash and Bank Balances	208.37	1006.00		
(d) Other Current Assets	11.09	0.08		
	1958.61	2039.60		

You have work in progress, uncompleted contracts and value of verb done advances received, related site mobilization expenses, retention money. So, in the context of construction projects these are the relevant items and this way you will be able to get a total 1738. Now this value will go from this schedule if you look here carefully 1738.61 is as on 31st of March 2018. Now this will go in schedule G here.

So, you can see this value 1738.61 is coming from schedule G, likewise if you referred to different schedules you will be able to get the details pertaining to that. So we have just now discussed a profit and loss statement and the balance sheet how in real life situation they look like. Now I will quickly take 1 small example.

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And I will show you how these profit and loss statements can be made quickly for this I have given you few transactions let us say a company purchase materials of rupees 7549. It paid salaries rupees 678, paid for telephone charges rupees 928 interest on loan paid rupees 36 income tax paid rupees 236, sold goods for cash rupees 9959, barrowed loan from it is a city bank rupees 1324 by giving the machinery as security.

So this we call it as secured loan it purchase machinery for rupees 1324 now these are the transactions now looking at these transactions we can quickly fix the profit and loss statement. And we can prepare the balance sheet where we will show what are the sources of funds and what are the applications of funds. So in this what you have to identify is what is the sale that has occurred, the value of sale or the revenue.

Then you will have to identify where all you spend the money, so expense. So the different saleexpense you will get profit, this will be before tax, then you will subtract the tax, so that will give you profit after tax right. Now it will depend whether you are trying to keep all the money with you as profit or you want to part with this profit as let us say dividend. So you will have to further subtract and then we will prepare the balance sheet.

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Sales		9959		
Expenditure				
Materials	7549			
Staff expenses	678			
Administration expenses	928			
Interest	36			
		9191		
Profit before tax	>	768		
Less: Tax paid		236		
Profit after tax		532		
Less: Proposed dividend -		0		
Transfer to general reserve		532 -		
		19		

So, first we have start with the profit and loss statements, so you can see sales you made it for 9959 rupees. So this is as for as sales is concerned, then we have to look for expense, under expense you have material expense, so we purchase the material for 7549. If you go back you purchase the material for 7549 this is the first transaction you can see here. So I wrote it at its appropriate place then staff expense.

You go back and see it staff expense you did you paid salary rupees 678, so I write 678 here then you have administrative expenses although I have written it paid for telephone charges. But it is all put together this is administrative expenses I wrote 928 here. And interest also is an expense, so this is 36, so if I add all this my total expenses coming to be 9191. So if I subtract this value from my total sales I am getting this 768.

So this is nothing but my profit before tax right. Now I paid 236 rupees as tax so my profit after tax will be how much 768-236, so I am getting 532. Now in this case let us say I am not proposing any dividend, so let us say dividend is 0 that means whatever profit the company generated it wants to reemploy within in the company. It does not want to part with this money to the shareholders, so this whole thing I am writing it as 532.

Because there is no dividend here, so dividend is 0 here, so 532, so this is as far as your profit and loss statement or income and expenditure a statement is concerned. What these contain they contain your sales, they contain your expenses, the expenses could be on account of material expense. It could be on account of staff salary, it could be an account of administrative expense you add all these expenses subtracted from the sales.

You get the profit before tax, now you subtract the tax from this you get profit after tax, once you know this then you have to decide whether this whole profit you will keep within the company or you would like to give it part of it to the shareholders. Those we call it as dividend, so in our case I assume 0 dividends, so the whole money of 532 rupees is with the company as profit after tax and this is what we call it as transferred to general reserve.

So this is I am basically added liability for the company, now we will see how balance sheet is prepared.



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Now for preparing the balance sheet as I told you we have to look for 2 things what are the sources of funds that means where all the money came from and then application of funds where all the money was utilized. So if you see sources of funds, so we have shareholder fund which is consisting of share capital, in this case no detail reserves and surplus. So 532 whatever I got it from my profit and loss statement.

I have transferred it to general reserve, so 532 is coming here. In the previous year it was 530 now we have to give the details I got the money through secured loan. If you remember the previous slide the company burrowed loan from city bank which was equivalent to rupees 1324 by giving the machinery as security. So, the company obtained secured loan equal to 1324, so I have written this under secured loan row.

So, the total fund that I have is the summation of this 532+1324 this coming to be 1856 for the previous year it was 530+1000 it was 1530. Now we will see where actually we applied these funds, we applied these funds to generate the fixed asset as you know the company purchase fixed asset by taking loan against this particular equipment and that was equivalent to 1324. The company has cash and bank balance equivalent to 532.

You know from where this is coming this is coming from the profit and loss statement, so you find the total is coming to be 1856, for the previous year it was 100+525+ there was some miscellaneous expenditure in the previous year, so 1530.





So, this is how you can see we prepare the profit and loss statement and balance sheet from the given set of transactions. So whole exercise might have given you an idea that this is quite a scientific process and there are very less chances of making error as long as, as you see make

sure that your asset sides and your liabilities sides are matching. Now whenever the company prepares these statements they also give certain additional statements.

These the statements are known as let us say auditor's report, then you have director's report then there are notes forming part of accounts. Then you have significant accounting policies and then you have related parties disclosure. Now we will see some of these reports what I would suggest you to go through some of the annual reports which are available online for different companies and you can read each of these reports, what does this auditor report contain?.

So, if you see the summary of auditor's report it, it will tell that ok this company is adopting the excepted accounting principles in its accounting business. And as per their knowledge and record they find that whatever that I has been presented or truth to their knowledge. Likewise the director of the company would also give certain statements like what are the major thing that happened during this year in the entire organization, who are the key members.

Who joined the organization, at what salary they join, who are the key members, who left the organization, what is the significant change that they made, what kind of business prospects they force see in near future, where exactly they would like to invest their money in coming years and so on. So basically that sets the agenda for the reports various reports which are part of these annual reports.

Then they also declare any deviation or inconsistency in the accounting method which has been done in this particular year unlike the previous years because as a matter of fact if you remember the assumptions of accounting you might recollect that these accounting statements are to be prepared following consistency and all the methods must be same in different years. Otherwise these figures will have no meaning.

Then they also say they have certain kinds of disclosure that ok this is based on this kind of assumptions and so on. So I suggest you go through some of the key parameters with these reports profit and loss statement and balance sheet. So we will stop at this particular point and I

summarize what we will learnt in this particular lecture. We discussed real life example of profit and loss statement and balance sheet.

We discuss what are the key terms involved in each of these reports and we also discussed what are the annexes to these annual reports. So we stop at this point next time when we meet we will discuss some more aspects related to this. But all those we will discuss in the next class we stop at this point thank you very much.