

Security Analysis & Portfolio Management
Professor J.P Singh
Department of Management Studies
Indian Institute of Technology, Roorkee
Lecture 40
Income Statement, Cash Flow Statement, Ratio Analysis

Welcome back, so before the break I was discussing the difference between provision and reserve. A provision is the creation of a separate or separate account to provide for the payment against an anticipated liability and expected liability where the amount of that liability is not absolutely sure. A typical example is taxation if you are having profits, you are obviously likely to pay tax or you will be required to pay tax on those profits, however the amount of that taxation would be determined in finality in or it would be crystallized only after the assessment is completed.

So, you have to create you have no choice but to create an estimate on the basis of your assessment of your income and the tax liability there on. Similarly, we have a provision for doubtful debts because you are not able to estimate with precision the realizability or the amount of debtors who would actually pay up and you have to again make a provision on the basis of some reasonable assessment and estimation procedures.

So, these are typical examples of provisions reserves are more general and they are voluntary they are appropriations and you could create results for specific purposes or you could create results for any general nature to meet any unforeseen contingency as well. So, which is usually called a General Reserve. So, that is the fundamental difference between Provision and Reserve.

Provision being a set of or a set aside for meeting almost a certain liability is treated as a charge against the profits, reserves not being required against an absolutely certain liability is usually deemed as an appropriation of profits and even the taxation loss treated accordingly in line with the difference between interest and dividend.

So, now let us move to the Income Statement. We have two parts of the Income Statement; the Total Comprehensive Income is divided into two parts: Statement of Profit and Loss, and Statement of other Comprehensive Income. Statement of Profit and Loss and Statement of Other Comprehensive Income. So, let us start let us start to understand the anatomy of this statement of Total Comprehensive Income which consists of two parts: the P and L account and the OCI account.

(Refer Slide Time: 2:52)

PROFIT & LOSS ACCOUNT

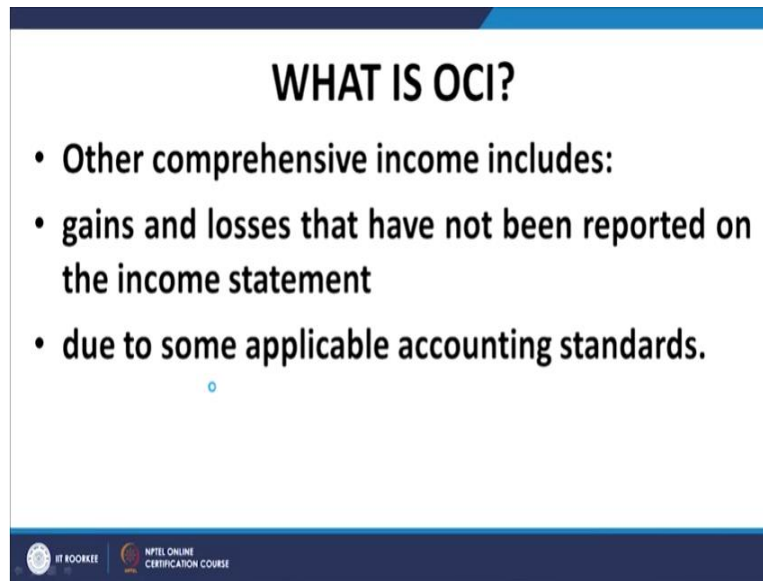
- The International Accounting Standards Board (IASB) discussion paper on Conceptual Framework for Financial Reporting suggests that:
- The P&L Account should provide the primary source of information about the return an entity has made on its economic resources in a period.

IT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 4

The Profit and Loss account the International Accounting Standards for IASB discussion paper on Conceptual Framework for Financial Reporting suggests that: the Profit and Loss account should provide the primary source of information about the return an entity has made on its economic resources in a period. So, that is what is the formal definition or formal recommendation of the and so far as the Profit and Loss account is concerned by the IASP.

Therefore, the Profit and Loss account shared recognise the following results of; transactions, consumption and impairments of Assets and fulfilment of liabilities in the period in which they occur changes in the cost of Assets and Liabilities, any gains or liable losses arising from their initial recognition. Let me repeat, the results of Transactions, Consumption and Impairments of Assets and fulfilment of liabilities in the period to which in which they occur changes in the cost of Assets and Liabilities any gains or losses arising or resulting from their initial recognition.

(Refer Slide Time: 4:11)



WHAT IS OCI?

- **Other comprehensive income includes:**
- **gains and losses that have not been reported on the income statement**
- **due to some applicable accounting standards.**

IT KOOBEE NPTEL ONLINE CERTIFICATION COURSE

What is other Comprehensive income? This is a relatively new concept compared to the Profit and Loss account which is age old. The other Comprehensive Income includes gains and losses that have not been reported in the Income Statement, not been reported in the P and L account due to some applicable accounting standards. So, if there are some relevant accounting standards which allow or require that certain transactions need to be reported not in the P and L account but in the OCI account, the requirement is manifest in the creation of this OCI account.

So, what is the difference between the Income Statement, and the OCI account and the Total Comprehensive Income? The difference is elucidated in the IES 1 which is the presentation of Financial Statements which defines the Profit and Loss account formally as the Total of Income less expenses excluding the components of other Comprehensive Income. So, this is more of an exclusive definition the Total of Income less expenses excluding the components of other Comprehensive Income.

What is other Comprehensive Income? Well, I have just alluded to that. Let us recap, other Comprehensive Income comprises items of income and expense that are not recognized in Profit and Loss account as required or permitted under some IFRS. So, if there is some provision in some in IFRS International Financial Reporting Standards or any applicable standards may be the India's as well, which requires or provides or enables the reporting of an item in the OCI account then of course you can take recourse to that or you may be required

to take request to that and report the transaction in the OCI account in lieu of the P and L account.

The total Comprehensive Income is defined as the change in equity during a period resulting from transactions and other events occur than those changes resulting from Transactions with owners in their capacity and as owners. So, the total Comprehensive Income is the basic impact on the equity in other words, it reflects the change in equity except for the fact except for those transactions which are directly incurred, which directly relate to the which directly emerged from the owners or the shareholders of the company and the capital of the company. For example, let me give you an example. An issue of share capital obviously it will not find a place in either the P and L account or the OCI account and therefore not the TCI account.

Similarly repurchases of shares would not find a place in the any of this statement. So, these kinds of transactions which are carried out with owners by the entity by the entity concerned with the owners in their capacity as owners. Please note this is important, in their capacity of as owners. The transaction was free in the capacity of owners by the owners. If the owners are acting in some other capacity, for example, as lenders or as suppliers of course then that will not form a part of this particular provision.

So, Total Comprehensive income, let us repeat is the change in equity during a period resulting from transactions and other events that exclude the changes that result from transactions with owners in their capacity as owners and not in any other capacity. So, Income Statement, OCI statement and Statement of Changes in equity SOCE Statement of Changes in Equity. In fact, the financial reporting framework as of now the formal financial reporting framework as of now comprises of the TCI Statement, the Balance Sheet, the Cash Flow Statement, and the Statement of Changes in Equity.

These four statements from the pillar stones of the contemporary financial reporting framework. So, step 1 Performance Change or Capital Change. I just alluded to that in a minute us try to understand it a bit in detail. First of all, we want to know we should know whether the change that we are considering incorporating in the Income Statement or the OCI Statement arises from a performance impact or it is a change due to capital. The reason for introducing other Comprehensive Income and merging it with Profit and Loss in the Statement of Total Comprehensive Income is to distinguish between Capital and Performance changes.

As I mentioned earlier, what are Capital changes? The Capital changes are those changes which are due to the transactions between the company and the owners of the company acting in their capacity as owners of the company these are Capital changes. And they would be reported in the statement of changes in equity directly. They would bypass both the P and L account and the OCI account. However, if it is the performance change it relates to the operations of the company or direct or indirect or directly will come to it in a minute.

If it is a performance change then we need to look at whether it is the outcome or it is in relation to the primary operations of the company then it will be reported in the P and L account or the Income Statement. However, if it is a change which is not of a direct nature and which is allowed or required to be reported in the OCI under the provisions of any accounting standards then it will be shown in the OCI account and carried to the SOCE through the OCI account.

So, to repeat if the change is a performance change and if it relates to the primary operations of the company, it would be reported in the Income Statement unless it is a change which is allowed or required to be reported in the OCI account by an accounting standards. In which case it would be reported in the OCI account and carried to the statement of changes in equity directly bypassing the Income Statement.

So, performance changes primary performance will be reported to the Income Statement or the float to the Income Statement and from there in it will flow to the retained earnings and this changes statement of changes in equity. Performance changes these are changes coming from the activities of the company and not from the shareholders. Changes resulting from or related to primary performance or main revenue producing activities of the company that are reported in the Profit and Loss account.

So, changes which are of a primary nature which relate to primary operations which relate to revenue generating activities of a routine nature are to be reported in the Profit and Loss account and from there of course they would migrate to the retained earnings and from there would migrate to statement of changes in equity. So, for example, revenue from sales of goods or services expense incurred to make sales of goods or services all other income and expenses such as finance, administrative, marketing, personal expenses, gains related to primary performance all these changes are reported to Profit and Loss account.

The main point here is that other IFRS standard does not permit public require recognition of these changes directly to equity or through OCI. Secondary performance changes through OCI, changes resulting from other non-primary or non-revenue producing activities that are not reported in P and L are required or permitted to as required or permitted by other IFRS Standard. Let me repeat, changes resulting from other non-primary or non-revenue producing activities that are not reported in P and L as required or permitted by other IFRS standards these are to be reported in OCI and from there they would go to the Statement of Changes in equity but please note these are performance changes.

Changes which affect the capital directly or changes which are due to transactions between the company and the owners in their capacity as owners will bypass both P and L, OCI, TCI and would directly reflect in the Statement of Changes in equity. So, for examples of items that are usually appearing in OCI to be up to appear in OCI, actuarial gains and losses, gains public losses arising from translating the financial statements of a foreign operation the effective portion of gains and losses on hedging instruments in a cash flow hedge for financial liabilities designated at fair value through profit and loss, FVPTL, Fair Value Changes attributable to changes in the liabilities credit risk.

So, this is the relationship between the three components of the income statement the total Comprehensive Income, the Profit and Loss account, the other Comprehensive Income and this statement of changes in equity. Let me quickly summarize this before I move to the next topic, if the changes are that are to be reported arise from transactions which are which are incurred or which are executed between the entity and the owners of the company in their capacity as owners then it would bypass the TCI, the OCI and the P and L and reflecting statement of changes in equity. If the changes result from performance and are related to the primary operations of the company the revenue producing activities of the company they would normally find their way into the Profit and Loss account.

If they are allowed or required by some provisions of the accounting standards to be reported in other comprehensive income then they would be so reported, if they are allowed, if the company so chooses and if they are required then of course the company has no choice it becomes a mandate and therefore in that case these items would be reported in the OCI and from there it will these items would flow to the to the statement of total comprehensive income and from there to the statement of changes in equity. So, that is the broad framework as far as the contemporary reporting of items in the income statements is concerned.

(Refer Slide Time: 15:18)

FUNDS FLOW STATEMENT

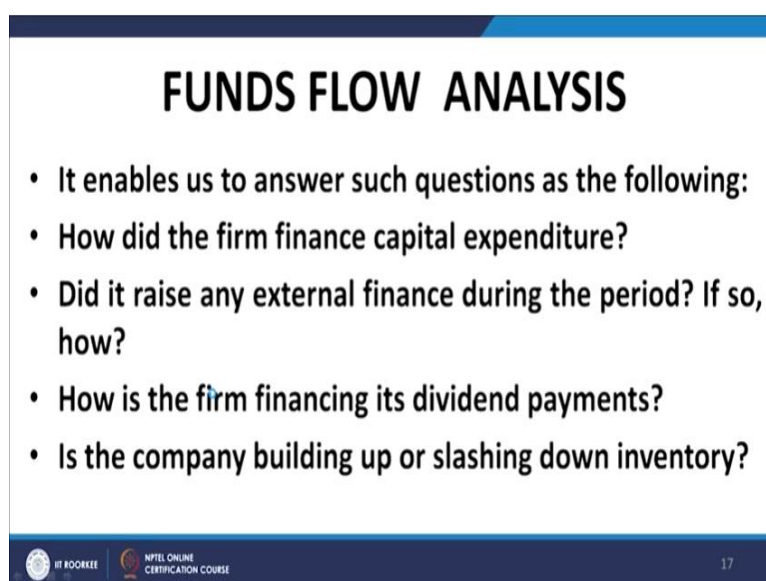
- The funds flow statement, shows:
- The sources from which funds were raised between two balance sheet dates and
- How they were deployed.
- Funds flow statement is also called statement of changes in financial position.

IIT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 16

We now move to the fund and cash flow analysis; Fund flow statement shows the sources from which funds were raised between two balance sheet dates and how they were deployed fund flow statement is also called statement of changes in financial position. So, fund and cash flow statements are in addition to the in the the financial reporting framework that I have just alluded to and the fund flow statement is an additional apparatus which enables us to ascertain more information about the financing of the various activities of the firm, how the finance has been raised, which is being deployed toward the acquisition or maintenance of assets of the firm and then cash flow statement gives us information about the the movements of cash or flow of cash in the relevant period and so these two statements also assist in the in the overall fundamental analysis of the company together with ratio analysis.



Ratio analysis is another useful framework for the conduction of for the augmentation of the various information or the analysis of various information in relation to the fundamental analysis for determining inputs that go into the valuation process. So, the fund flow statement shows the sources from which funds are raised between two balance sheet dates and how they are deployed and it's also called the statement of changes in financial position.

(Refer Slide Time: 16:53)



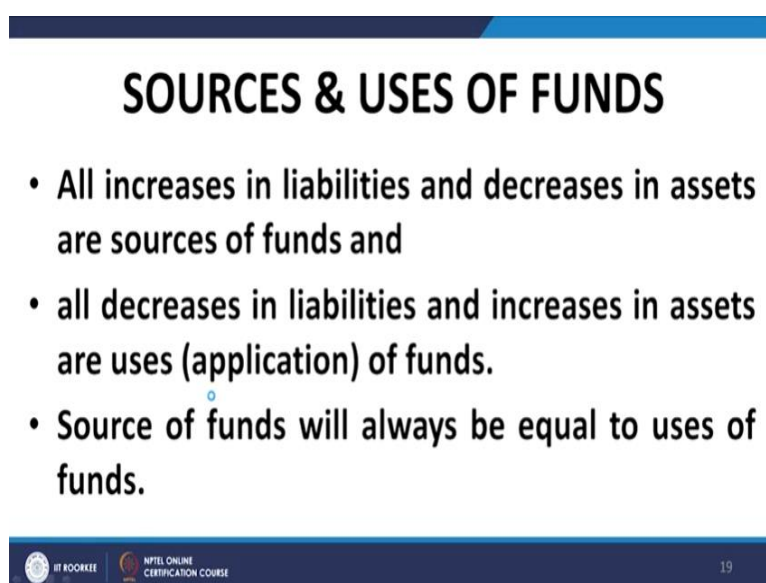
FUNDS FLOW ANALYSIS

- It enables us to answer such questions as the following:
- How did the firm finance capital expenditure?
- Did it raise any external finance during the period? If so, how?
- How is the firm financing its dividend payments?
- Is the company building up or slashing down inventory?

 IIT KOOEREE  NPTEL ONLINE CERTIFICATION COURSE 17



The fund flow statement enables us to answer various questions, such as, how did the company finance its capital expenditure, did it raise an external finance during the period, if so how is the financing its dividend payments, how is the company financing its dividend payments is the company building up or slashing down its inventory. It also throws light on major corporate financial policies like the dividend policy capital investment and financial mix.

(Refer Slide Time: 17:21)



SOURCES & USES OF FUNDS

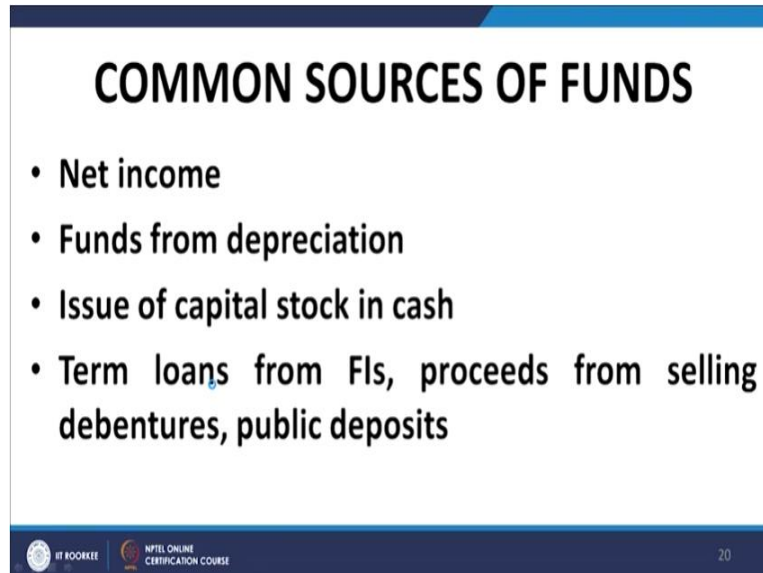
- All increases in liabilities and decreases in assets are sources of funds and
- all decreases in liabilities and increases in assets are uses (application) of funds.
- Source of funds will always be equal to uses of funds.

 IIT KOOEREE  NPTEL ONLINE CERTIFICATION COURSE 19

Sources and uses of funds all increases in liabilities and decreasing in assets are sources of funds all increases in liabilities and decreases in assets sources of funds all decreases in

liabilities and increases in assets are applications or uses of funds sources of funds will always equal the uses of funds.

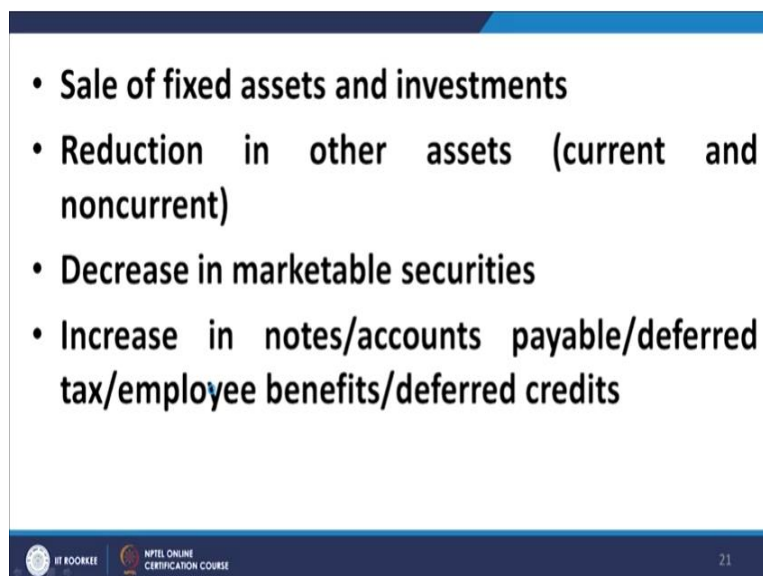
(Refer Slide Time: 17:42)



COMMON SOURCES OF FUNDS

- Net income
- Funds from depreciation
- Issue of capital stock in cash
- Term loans from FIs, proceeds from selling debentures, public deposits

IT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE 20



- Sale of fixed assets and investments
- Reduction in other assets (current and noncurrent)
- Decrease in marketable securities
- Increase in notes/accounts payable/deferred tax/employee benefits/deferred credits

IT ROORKEE | NPTEL ONLINE CERTIFICATION COURSE 21

Common sources of funds are net income, funds from depreciation, issue of common stock in cash, term loans from financial institutions, proceeds of selling debentures public deposits sale of fixed assets and investments reduction in other assets current and non-current, decrease in marketable securities increase in notes accounts payable deferred tax employee Benefits and deferred credits.

Common uses of funds well we have cash loss that is lost before providing for all non-cash expenses like depreciation capital expenditure investments in other companies, dividend paid

these are typical items of course, we cannot we can never have an all-exhaustive list of such items these are typically examples to acquaint the learners with what what to expect when you read or when you prepare a fund flow statement or when you analyse a fund flow statement. Redemption of term loans and payment of other liabilities, liquidation of other liabilities, current and non-current acquisition of other assets current and non-current.

The structure of the front flow statement the front flow statement has two parts you must say the first part tracks the movement of funds in the long-term account comprising of non-current assets and non-current liabilities and this other part other portion tracks the movement of funds in the short-term account that is among current assets and current liabilities. The second part is usually called the statement of changes in working capital, so in other words the fund flow statement is usually prepared in two parts one part the statement of changes in working capital and other is the primary fund flow statement which incorporates the difference that we have in the statement of changes in working capital as a as an entry in the in the main fund flow statement, which shows the changes in long-term sources and long-term applications.

Fund flow statement and financial prudence, now this is important ideally there should be a surplus in the long-term account which is used as margin money for financing working capital a deficit in the long-term account will mean that the management has diverted short-term funds to long-term uses which is not justified, which is a bad practice which is bad financial prudence, long-term sources or long-term assets long-term uses should invariably be financed out of long-term sources.

Short-term uses should usually be financed by short-term sources with a part of the financing of short-term uses coming from long-term sources. So, usually what should happen is there should be a mix of long-term financing and short-term financing for the purpose of short-term uses. However, it should invariably be the case that the long term uses long-term applications should be financed only from long term sources, I repeat as far as short-term uses are concerned you should have a mix of short-term sources and long-term sources for financing short-term uses and as far as long-term uses are concerned, they should exclusively be financed out of long-term sources.

(Refer Slide Time: 21:07)

MATCHING LONG TERM SOURCES WITH USES

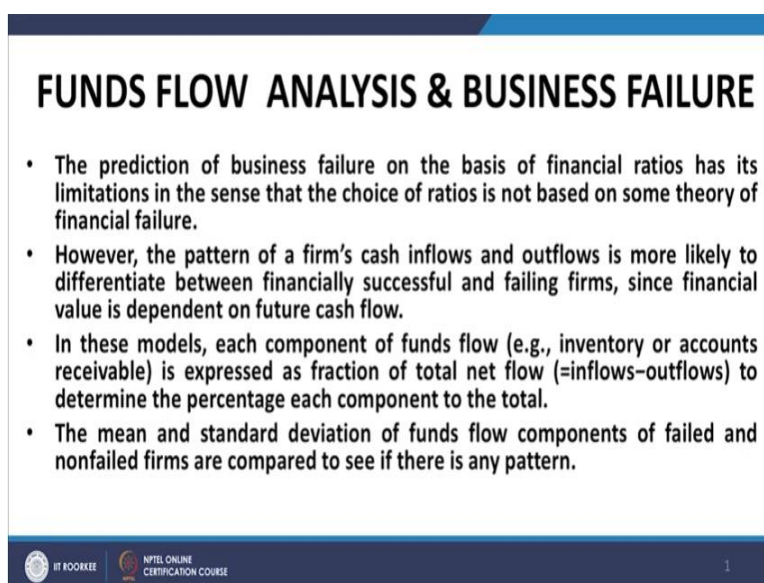
- A company should match long-term sources and long-term uses.
- For example, capital expenditure may be financed by equity or long-term debt or some combination.

IIT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 26

The matching long-term sources with uses a company should match long-term sources with long-term users as I explained. So, capital expenditure may be financed by equity or long-term debt or some combination thereof one flow analysis and business failure now this is interesting the prediction of business failure on the basis of financial ratios has its limitations in the sense that the choice of ratios is not based on some theory of financial failure.

However, the pattern of a firm's cash flows inflows and outflows is more likely to differentiate between financially successful and failing firms. Since financial value is dependent on future cash flow so how do we conduct the analysis in this models of cash flow where we use the cash flow and fund flow statement for the assessment of financial health of an entity or the prospects of financial failure in the near future what we do is each component of front flow is expressed as fraction of the total net flow that is inflows minus outflows to determine the percentage each component has to the total of the net inflow of the funds.

(Refer Slide Time: 22:15)



FUNDS FLOW ANALYSIS & BUSINESS FAILURE

- The prediction of business failure on the basis of financial ratios has its limitations in the sense that the choice of ratios is not based on some theory of financial failure.
- However, the pattern of a firm's cash inflows and outflows is more likely to differentiate between financially successful and failing firms, since financial value is dependent on future cash flow.
- In these models, each component of funds flow (e.g., inventory or accounts receivable) is expressed as fraction of total net flow (=inflows-outflows) to determine the percentage each component to the total.
- The mean and standard deviation of funds flow components of failed and nonfailed firms are compared to see if there is any pattern.

IIT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 1

We work out the mean and standard deviation of the front flow components of failed and non-failed firms and compare them to see whether there is any pattern it has empirically been found that the standard deviation of failed firms is usually substantially larger than non-failed firms. These studies have found that fund flow components provide a reliable signal for determining or discriminating between failed and non-failed firms.

So, that is a very important very worthwhile application of fund flow statements you express them on the basis of some common denominator and then you work out the mean and standard deviation of various components and you will find it is empirically shown empirically vindicated that the in the case of failed forms the standard deviation turns out to be substantially larger than in the case of non-failed firms.

So, fund now we talk about the difference between fund flow statement and cash flow statement, a fund flow statement is a broader concept than the cash flow statement in the sense that it reflects changes in all accounts including cash. As I mentioned, the fund flow statements has two parts first part that relates to changes in current assets and current liabilities which is called the statement of changes in working capital and the second part which is the main front flow statement which reflects changes in long-term sources and long-term uses of funds in the entity. So, a cash flow statement on the other hand tries to explain the changes in cash position between two balance sheet states, I repeat a cash flow statement tries to explain the change in cash flow statements between two balance sheet states.

Thus, an increase in plant and machinery will be recorded as a use in front flow statement but may not find a place in the cash flow statement if it does not involve a cash outlay during the relevant period. So, if you have purchased the plant in machinery but the actual cash, outlay has not been made then in this purchase of plant and machinery may not be reflected in the cash flow statement although of course it would be reflected in the fund flow statement.

So, non-cash transactions do not enter the cash flow statement the cash flow statement is simply the net of all inflows and outflows during the period cash balance at the beginning of the year plus net cash flow during the year is equal to cash balance at the end of the yea. This is the governing expression which shows the indestructibility of cash in a sense and this is what governs the preparation of the cash flow statement.

Uses of cash flow statement and there are multitude of uses of cash flow statement just like the fund flow statement analysis of credit proposals firm's need for external financing use of its long term debt from ability to meet current and long-term cash obligations ability of the firm's operations to generate cash cash flow statements also enable making informed decisions on interest and dividend payments, required principal reductions on depth and capital expenditures for plant and equipment and for expansion.

What are the usual sources of cash? Cash provided by operating activities also known as operating cash flow is the primary source of cash to meet these needs. In the absence of operating cash flow cash flow from other sources can be used to cover cash requirements, cash inadequacies, cash can be obtained from new debt or equity issues or non-recurring asset sales. However, these non-operating cash flows can be relied upon only in the short run, in the at the end of the day, it is the operating cash flow that is the primary source or that as a reliable source for the sustenance of the business.

Structure of a cash flow statement a cash flow statement again consists of three parts three portions: The operating cash flows, the investing cash flows and the financing cash flows. Cash flow from operate operating activities or the operating cash flow cash flow from operating activity shows the result of cash flows and due to the fundamental operations of the company like cash received from sale of goods and services payment for purchases of inventory employee compensation payment of rent and taxes interest typical entries in cash flow operating activities well.

(Refer Slide Time: 26:52)

TYPICAL ENTRIES IN CASH FROM OPERATING ACTIVITIES

- *Cash flow from operating activities*
- Net income –
- Adjustments to reconcile net income to net cash provided by operating activities:
 - Depreciation and amortization
 - Changes in other accounts affecting operations
 - (Increase)/decrease in accounts receivable
 - (Increase)/decrease in inventories
 - (Increase)/decrease in prepaid expenses
 - (Increase)/decrease in accounts payable
 - (Increase)/decrease in taxes payable
- Net cash provided by operating activities

IT ROORKEE NIPTEL ONLINE CERTIFICATION COURSE 1

As I mentioned just now net income adjustment to reconcile net income to net cash provided by operating activities depreciation and amortization changes in other accounts affecting operations increased decrease in accounts receivable inventories prepaid expenses accounts payable taxes payable and net cash provided by operating activities is the outcome.

(Refer Slide Time: 27:18)

TYPICAL ENTRIES IN CASH FROM INVESTING ACTIVITIES

- *Cash flow from investing activities*
- Capital Expenditures
- Proceeds from sale of equipment
- Proceeds from sale of investments
- Investment in Subsidiary
- Net cash provided by (used in) investing activities

IT ROORKEE NIPTEL ONLINE CERTIFICATION COURSE 41

- Key elements in the investing activities section include the following:
- Purchases of property, plant and equipment
- Investments in joint ventures and affiliates
- Payments for businesses acquired
- Proceeds from sale of assets
- Investments (or sale of) marketable securities

Typical entries in cash from investing activities capital expenditure proceeds from sale of equipment process and sale of investments, investment in subsidiary and the outcome is net cash provided by or used in investing activities. Key elements in investing activities section include the following purchases of PPE, investments in joint ventures and affiliates payment for businesses acquired procedures proceeds from the sale of assets inventories oh sorry I am sorry, investments or sale of marketable securities.

Typical entries in cash from financing activities cash flow from financing activities include payment of long-term debt, proceeds from issuance of long-term debt, proceeds from issuance of common stock dividends paid, purchase of treasury stock, net cash provided is the outcome of this section of the statement.

(Refer Slide Time: 28:09)

• Key elements include:

- Cash dividends paid
- Increases or decreases in short-term borrowings
- Long-term borrowings and repayments
- Stock sales and repurchases

IT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 44

Key elements include cash dividends increases or decreases in short-term borrowings, long-term borrowings and repayments stock sales and repurchases.

(Refer Slide Time: 28:18)

INTEREST VS DIVIDENDS

- Note that interest expense is classified under operating activities though it is meant to service debt because it comes in the income statement before tax.
- Dividends are, however, classified under financing activities as they come after taxes.

IT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 45

Now interest versus dividends there's an important difference that I need to highlight interest pay expenses classified into operating activities, dividends are however classified as financing activities. Since they occur after tax session interest expense occurs in the profit and loss account above the line and therefore it is class classified as cash from operating activities portion of the cash flow statement.

(Refer Slide Time: 28:47)

CASH FLOW PATTERN

- The cash flow pattern depends on
- the nature of business and
- the life cycle of the company.

◦

IT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 47

HIGH GROWTH START UPS

- Start up companies in high growth industries will have negative cash flow because of high capital expenditure in relation to the level of earnings.
- The gap is to be met by selling debt or equity.

◦

IT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 48

Interpretation of the cash flow statement the cash flow pattern the cash flow pattern depends on the nature of the business and the life cycle of the company. In the case of high growth start-ups, the cash flow would usually be negative because of high capital expenditure in relation to the level of earnings, the gap is usually to be financed or expected to be financed or likely to be financed by selling debt or equity.

(Refer Slide Time: 29:13)

ESTABLISHED GROWTH COMPANIES

- **Established growth companies** can meet their investment requirements from **internally generated funds**.

IIT ROORKEE NPTEL ONLINE CERTIFICATION COURSE 49

In the case of established growth companies and the investment requirements are usually made from internally generated funds, I repeat for established growth companies the investment requirements are made from invest internally generated funds. Mature companies have modest capital expenditure requirements and the cash flow from operations will be slightly higher than the reinvestments. These are typical these are usual characteristics of companies which are in various phases of their lifetime.

Companies and declining phase these companies will have surplus cash flow operations which could be returned to shareholders or pay off debt or revitalize product lines. Turnarounds would be characterized by cash flows due to freeing up of assets and income statement losses. Thus, the cash flow statement or the cash flow pattern indicates the position of a company in its business cycle the nature of its model to start with cash flow from operations should be positive and growing.

Important parameters for cash flow assessment to start with cash flow from operation should be positive and growing second see whether the company is investing to grow that is whether investments are more than depreciation, healthy companies typically purchase more assets than they sell in cash from investing will usually be negative. Steps in cash flow analysis the first step is in the analysis is to place the company in the context of a size age and Industry large mature companies would have substantial free cash flows compared to small firms.

Further large firms can also experience large declines in free cash value free cash flow but can also usually withstand one time declines because of their accumulated cash flows. Small firms in contrast would be unable to withstand declines in cash flows because of lack of resources. So, an analyst can prepare a checklist of major sources and uses as well as trends in cash flow from operations net income dividend and working capital accounts as shown in the chart below.

(Refer Slide Time: 31:31)

	Year t	Year t-1	Year t-2
Major source	Loan proceeds	Decrease in W.C	Dec. in W.C
	Revenue inflow	Non op. Income	Revenue inflow
	Decrease in working capital	Loan	Loan/Bonds
Major uses	Purchase of fixed assets	Bonds/Equity	Purchase of F.A
	Interest	Interest	Interest
		Repayment of loans	Repayment of loans
CFO > NI	Yes/No	Yes/No	Yes/No
Trends in			
Income	Increase/decrease in profit/loss	Increase/decrease in profit/loss	Increase/decrease in profit/loss
CFO	Up/down	Up/down	Up/down
Dividends	Yes/no	Yes/no	Yes/no
Net borrowing	Borrowed/repaid	Borrowed/repaid	Borrowed/repaid
Working capital	Increasing/decreasing	Increasing/decreasing	Increasing/decreasing

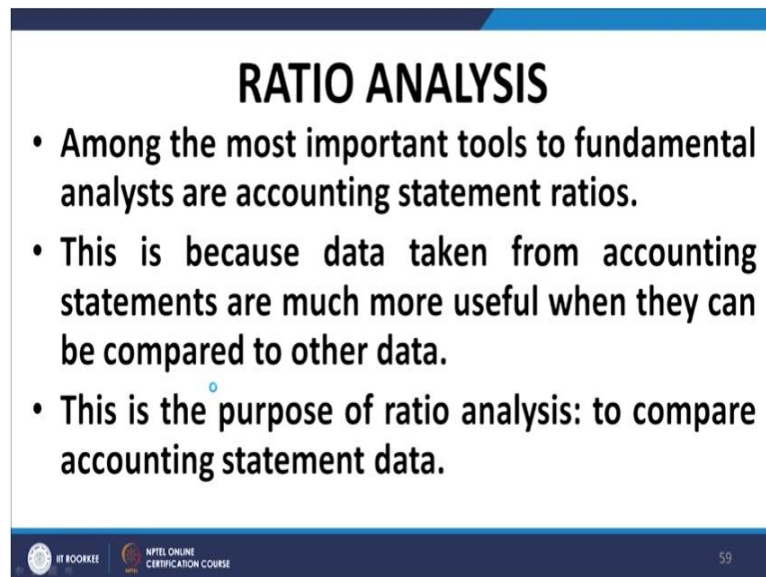
This is a chart which explains or which identifies how the analyst can go about preparing or analysing the cash flow statement of the target company. Now, we come to ratio analysis, I shall not take up ratio analysis in detail the various steps that are involved in ratio analysis are pretty much parallel to the steps that I had discussed in the context of relative evaluation when I talked about evaluation of equity.

So, I would not spend time discussing the modalities of ratio analysis, just discuss briefly the various types of ratios which are commonly used. Again, I reiterate this very fundamental fact that we can never have in most cases we cannot have an exhaustive list of various parameters which could be the content or which could form the framework of analysis of financial analysis of us for target company or financial analysis of a given set of financial statements.

We can only give illustrative a list of parameters at the end of the day it is the acumen the discretion the ability of the analyst what he feels is appropriate what is feels is necessary for the analysis and how the analysis is to be done that would contribute significantly that is

where the ability of the analyst shows up, that is where his his aptitude his acumen his ability manifests itself in where he is able to innovate and bring out hidden features of the company that he is doing the analysis of.

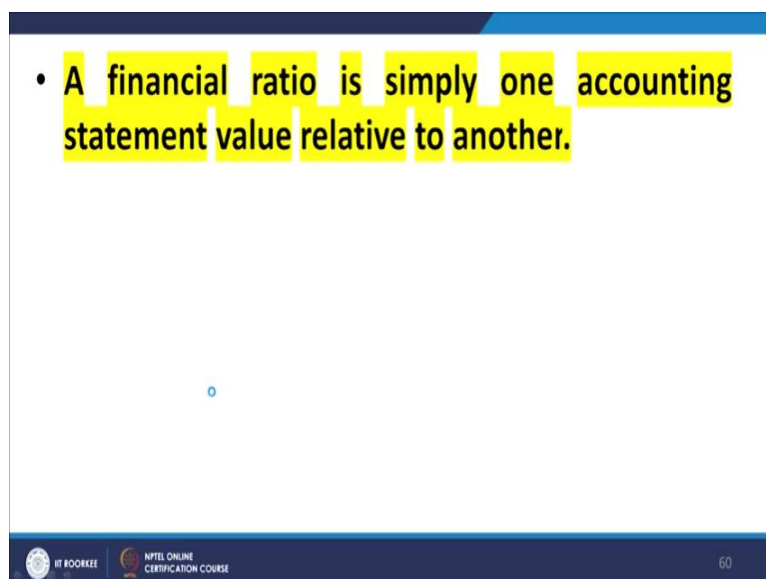
(Refer Slide Time: 33:19)



RATIO ANALYSIS

- Among the most important tools to fundamental analysts are accounting statement ratios.
- This is because data taken from accounting statements are much more useful when they can be compared to other data.
- This is the purpose of ratio analysis: to compare accounting statement data.

IFT BOOKEE NPTEL ONLINE CERTIFICATION COURSE 59



- A financial ratio is simply one accounting statement value relative to another.

IFT BOOKEE NPTEL ONLINE CERTIFICATION COURSE 60

So, quickly running through the ratio analysis ratio analysis are among the most fundamental tools most important tools of fundamental analysis. Now, this is because data taken from accounting statements are much more useful when they are compared to other data this is the purpose of ratio analysis. To compare accounting statement data, a financial ratio is simply one accounting statement value relative to another.

(Refer Slide Time: 33:36)

LIQUIDITY RATIOS

- These ratios are analyzed in an attempt to measure the firm's liquidity position; that is, they are used to determine a firm's ability to convert assets into cash in a short period of time.

$$\text{Current Ratio: } \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\text{CA}}{\text{CL}}$$

$$\text{Acid Test or Quick Ratio: } \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}} = \frac{\text{CA} - \text{INV}}{\text{CL}}$$

$$\text{Avg. Collection Period (days): } \frac{\text{Avg. Receivables} * 365}{\text{Credit Sales}} = \frac{\text{AR} * 365}{\text{CRS}}$$

$$\text{Receivables Turnover: } \frac{\text{Annual Credit Sales}}{\text{Avg. Receivables}} = \frac{\text{CRS}}{\text{AR}}$$

$$\text{Duration of Payables (days): } \frac{\text{Avg. Payables} * 365}{\text{Appropriate Purchases}} = \frac{\text{AP} * 365}{\text{RM}}$$

$$\text{Inventory Turnover: } \frac{\text{Cost of Goods Sold}}{\text{Avg. Inventory}} = \frac{\text{CGS}}{\text{Avg. Inv}}$$

$$\text{Net Working Capital to Total Assets: } \frac{\text{Current Assets} - \text{Current Liab.}}{\text{Total Assets}} = \frac{\text{CA} - \text{CL}}{\text{TA}}$$



PROFITABILITY RATIOS

- These ratios are used to determine the economic efficiency of the firm.



$$\text{Return on Equity: } \frac{\text{Net Income After Tax} = \text{NIAT}}{\text{Equity}} = \frac{\text{NIAT}}{\text{E}}$$

$$\text{Return on Assets: } \frac{\text{Net Income After Tax} + \text{Int.} = \text{NIAT} + \text{Int.}}{\text{Assets}} = \frac{\text{NIAT} + \text{Int.}}{\text{A}}$$

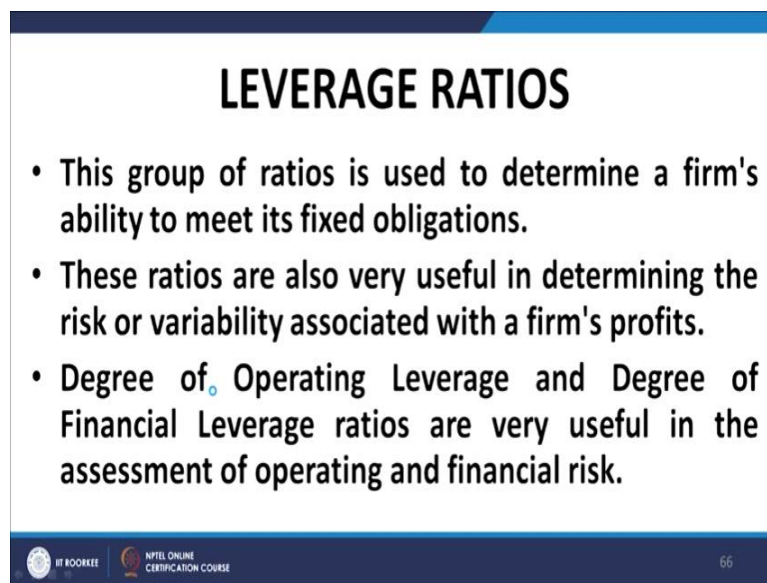
$$\text{Gross Profit Margin Ratio: } \frac{\text{Sales} - \text{Cost of Goods Sold} = \text{S} - \text{CGS}}{\text{Sales}} = \frac{\text{S} - \text{CGS}}{\text{S}}$$

$$\text{Net Profit Margin Ratio: } \frac{\text{Net Profit After Tax} = \text{NIAT}}{\text{Sales}} = \frac{\text{NIAT}}{\text{S}}$$



Now liquidity ratios these ratios which give you an impression which give you a failed feel about the liquidity position of the company these include the current ratio, the asset test ratio, the quick ratio average collection period, receivables turnover and duration of payables as well inventory turnover, turnover ratio net working capital to total assets these are also some more liquidity ratios. Profitability ratios give you a feel about the economic efficiency of the firm these include return on equity return on assets and gross profit margin ratio net profit margin ratio.

(Refer Slide Time: 34:13)



LEVERAGE RATIOS

- This group of ratios is used to determine a firm's ability to meet its fixed obligations.
- These ratios are also very useful in determining the risk or variability associated with a firm's profits.
- Degree of Operating Leverage and Degree of Financial Leverage ratios are very useful in the assessment of operating and financial risk.

IIT KHARAGPUR NPTEL ONLINE CERTIFICATION COURSE 66

Leverage ratios are more important they give you an idea about the level of debt that is present in the company and comparison with similar companies could give you useful inputs about the about the financing structure and the financial soundness of an entity. So, this group of ratios leverage ratios is used to determine a firm's ability to meet its fixed obligations, these ratios are also very useful in determining the risk or variability associated with the firm's profits degree of operating leverage and degree of financial leverage ratios are very useful in the assessment of the operating and financial risk of the entity.

(Refer Slide Time: 35:05)

$$\text{Financial Leverage: } \frac{\text{Debt}}{\text{Debt} + \text{Equity}} = \frac{D}{D + E}$$

$$\text{Debt-Equity Ratio: } \frac{\text{Debt} = D}{\text{Equity } E}$$

$$\text{Times Interest Earned: } \frac{\text{Earnings Before Int. and Taxes} = \text{EBIT}}{\text{Interest Payment} = \text{Int.}}$$

$$\text{DOL} = \frac{\% \text{ change in EBIT}}{\% \text{ change in sales}} = \frac{\partial \text{EBIT} / \text{EBIT}}{\partial Q / Q} = \frac{\partial \text{EBIT}}{\partial Q} \times \frac{Q}{\text{EBIT}}$$

$$\text{If } \text{EBIT} = (s-v)Q - F, \text{ then } \text{DOL} = \frac{(s-v)Q}{(s-v)Q - F}$$

$$\text{DFL} = \frac{\% \text{ change in EPS}}{\% \text{ change in EBIT}} = \frac{\partial \text{EPS} / \text{EPS}}{\partial \text{EBIT} / \text{EBIT}} = \frac{\partial \text{EPS}}{\partial \text{EBIT}} \times \frac{\text{EBIT}}{\text{EPS}}$$

$$\text{If } \text{EPS} = \frac{1}{N}(\text{EBIT} - I)(1 - T), \text{ then } \text{DFL} = \frac{\text{EBIT}}{\text{EBIT} - I}$$

Typical ratios well we have financial leverage we have depth equity ratio we have times interest and operating leverage and financial leverage. As I mentioned just now operating leverage is the percentage change in EBIT divided by the percentage change in seal sales this gives you a feel about what is the extent of the fixed charges in in the fixed charges in relation to operations in the firm higher the operating leverage higher is the content of fixed charges in the firm and therefore higher the operating risk of the entity.

Similarly, the degree of financial leverage is the percentage change in EBS upon the percentage change in EBIT and again it gives you a feel of the amount of fixed debt that is there in the company. And therefore, a feel of how financial sound the companies how much is the sustainability of the company in events of adversity because the higher the fixed charges higher the fixed amount of the fixed charge in depth in the company higher the amount of interest that the company has to pay as higher is the likelihood of failure in the event of adversity.

Activity and other ratios well some of them are sales turnover to asset ratio, then dividend pay-out ratio. So, with this I conclude the topic on fundamental analysis I have briefly touched upon technical analysis I shall now move to the third segment of the course which is portfolio management. Thank you.