

# Financial Statement Analysis

## Lesson 8

### KEY CONCEPTS

■ Ratios ■ Liquidity Ratio ■ Leverage Ratio ■ Turnover Ratio ■ Profitability Ratio ■ DuPont Analysis ■ Financial Statement

### Learning Objectives

#### To understand:

- The characteristics of Good Financial Statement
- The various types of ratios commonly used
- Various ratios to assess solvency, liquidity, efficiency and profitability of the firm
- Du Pont Analysis
- Financial Statement Analysis and Interpretation
- Analysis of Auditor's Opinion and Report
- Analysis of Management Personal Judgement in preparation of Financial Statement
- Problem in Analysis of Financial Statement
- Guidelines for Financial Statement Analysis

### Lesson Outline

- Introduction
- Characteristics of Good Financial Statement and its relevancy for better reporting
- Usage and Features of Ratio Analysis
- Financial Ratio
  - Liquidity Ratio
  - Leverage Ratio
  - Turnover Ratio
  - Profitability Ratio
- DuPont Analysis
- Reading and Interpretation of Financial Statement
- Lesson Round-Up
- Test Yourself
- List of Further Readings

## INTRODUCTION

The process of critical evaluation of the financial information contained in the financial statements in order to understand and make decisions regarding the operations of the firm or entity is called 'Financial Statement Analysis'. It is basically a study of relationship among various financial facts and figures as given in a set of financial statements, and the interpretation thereof to gain an insight into the profitability and operational efficiency of the firm to assess its financial health and future prospects.

The term 'financial analysis' includes both 'analysis and interpretation'. The term analysis means simplification of financial data by methodical classification given in the financial statements. Interpretation means explaining the meaning and significance of the data. These two are complimentary to each other. Analysis is useless without interpretation, and interpretation without analysis is difficult or even impossible.

Financial statement analysis is a judgemental process which aims to estimate current and past financial positions and the results of the operation of an enterprise, with primary objective of determining the best possible estimates and predictions about the future conditions. It essentially involves regrouping and analysis of information provided by financial statements to establish relationships and throw light on the points of strengths and weaknesses of a business enterprise, which can be useful in decision-making involving comparison with other firms (cross sectional analysis) and with firms' own performance, over a time period.

While information found in published financial statements is often not enough to form conclusive judgments about firm performance, financial statements do provide important clues about what needs to be examined in greater detail. Analysis of financial statements is of interest to lenders (short-term as well as long-term), investors, security analysts, managers, corporate boards, regulators, and others. Financial statement analysis may be done for a variety of purposes, which may range from a simple analysis of the short-term liquidity position of the firm to a comprehensive assessment of the strengths and weaknesses of the firm in various areas. It is helpful in assessing corporate excellence, judging creditworthiness, forecasting bond ratings, predicting bankruptcy, and assessing market risk. This chapter discusses how information can be extracted from financial statements for analysing financial performance.

## CHARACTERISTICS OF GOOD FINANCIAL STATEMENT AND ITS RELEVANCY FOR BETTER REPORTING

The following are all qualitative characteristics of financial statements:

**Understandability**

**Relevance**

**Reliability**

**Comparability**

### Understandability

The information must be readily understandable to users of the financial statements. This means that information must be clearly presented, with additional information supplied in the supporting footnotes as needed to assist in clarification.

**Relevance**

The information must be relevant to the needs of the users, which is the case when the information influences their economic decisions. This may involve reporting particularly relevant information, or information whose omission or misstatement could influence the economic decisions of users.

**Reliability**

The information must be free of material error and bias, and not misleading. Thus, the information should faithfully represent transactions and other events, reflect the underlying substance of events, and prudently represent estimates and uncertainties through proper disclosure.

**Comparability**

The information must be comparable to the financial information presented for other accounting periods, so that users can identify trends in the performance and financial position of the reporting entity.

**Relevancy of Better Reporting in Financial Statement**

Relevance in accounting means the information we get from the accounting system will help the end-users to make important decisions. End users can be either internal or external stakeholders. Internal stakeholders include managers, employees, and business owners. By external stakeholders, we mean investors, lenders, etc. Therefore relevance in accounting indicates the capacity to influence the end-users of the financial statement in their decision-making process.

The next thing we should understand is which information would be relevant for whom?

- The company's annual report, which the company managers prepare, is important to the shareholders. Now there may be different kinds of shareholders in a company. The shareholders who hold some shares in the company are more interested in the share price per day. The share price will never be mentioned in a balance sheet or the income statement. The balance sheet and the income statement show the ability to generate future cash flows. In this way, the shareholders will find meaning in it, and it will be useful for their decision making the purpose of investment.
- A manager who is an insider of the company will be in charge of making strategic or operational decisions based on the situation. Like the manager has to estimate the price/profitability of a product. This information will directly not be available in the annual report. The annual report, which the managers generally prepare, will help the manager with the pricing of a product. So by taking the annual report, keeping in mind the accounting principles and going backward in a calculation, the manager can calculate the price/profitability of a product.
- The shareholder who holds a large number of shares in the company will be more interested in knowing the profit generated and distributed by the company. But it must also be understood that the shareholders should not jump to a conclusion by only seeing the current financial report. It should also understand the assumptions and policies followed in making the accounting report. Then by using the numbers for some time, it will be able to understand the profit generated and profit distributed, which the annual reports will also throw light on. In this way, the information will be relevant for the shareholders in making a decision.

Every stakeholder needs useful information. It is why the relevance principle is of prime importance to financial accounting.

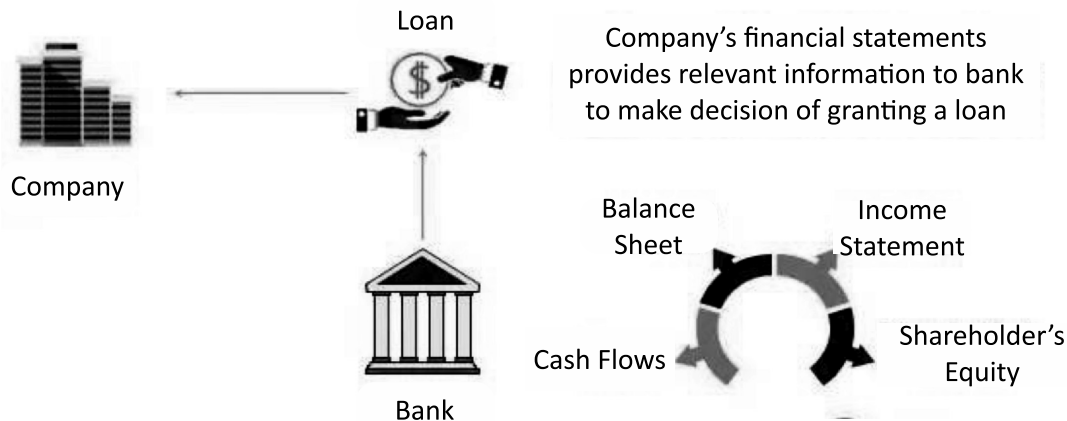
**Example 1**

If a company wants to take a loan from a bank, then the bank will want to know first whether the company

will be able to pay them back the loan with interest. Therefore, the company's financial statements should be relevant for the bank in making its decision regarding granting a loan to the company.

Financial statements like balance sheets, income statements, and cash flow present important information to the banker in making decisions. It should also be noted that the information should be timely. The banker will not consider the financial statements which are old.

The information should be understandable. In addition, the financial statement should be in proper accounting format. Lastly, the information should be useful for the banker in deciding whether to grant a loan to the company or not.



### Example 2

A company, ABC, announces that its earning per share have increased from Rs. 40 to Rs. 45. It is important and relevant information for the investors in making their decision as growing earnings provide a good return for the investors.

### Example 3

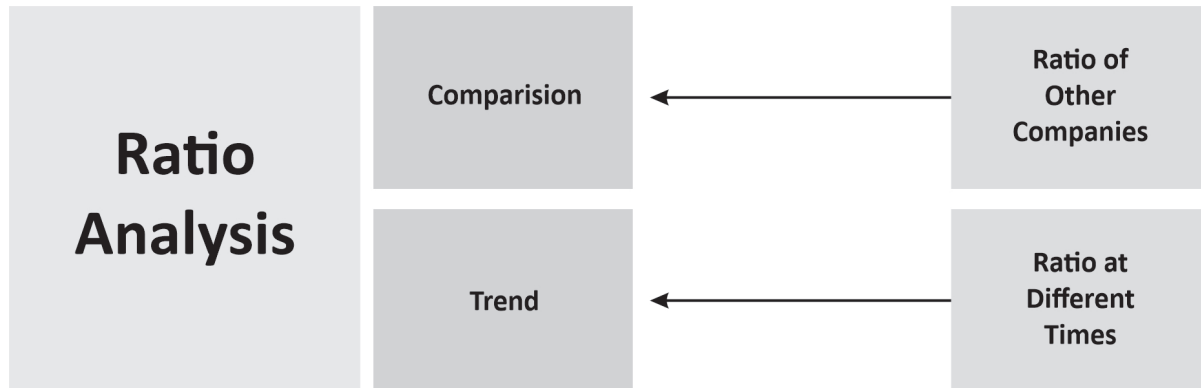
In mergers and acquisitions, the acquirer will be willing to pay the premium as it will expect the synergies (expected increase in revenue, cost savings) generated by the acquisitions. The acquirer can estimate the synergies from the enterprise value of the firm, which again will be calculated from the balance sheet of the Target Company, and EBITDA, which could be taken from the financial report of the target company. It is a piece of important and relevant information for the acquirer as it will influence its decision, whether paying a premium for the target company is worthwhile or not. If timely and accurate information is not provided, the acquirer might underestimate or overestimate the company, which will be a great loss for the acquirer.

A financial statement is relevant when it has data that is valuable enough to make predictions /estimations about future events like calculating the future cash flows, which will be important to the investors in making decisions. Many stakeholders also use past financial statements to analyze the company's future performance regarding profitability. It should be accurate data following accounting standards. Any inaccurate information may be misleading. Therefore any such false data doesn't come under the definition of accounting relevance. This kind of information cannot be of any use to the company in making decisions.

In short, accounting relevance should contain accurate and orderly information. The relevance of accounting numbers depends on the person using them. And it will hold more meaning if it has been used over some time and is more useful if one understands the generally accepted accounting principles based on which the financial report has been prepared.

## USAGE AND FEATURES OF RATIO ANALYSIS

Ratio analysis refers to the analysis of various pieces of financial information in the financial statements of a business. They are mainly used by external analysts to determine various aspects of a business, such as its profitability, liquidity, and solvency.



Analysts rely on current and past financial statements to obtain data to evaluate the financial performance of a company. They use the data to determine if a company's financial health is on an upward or downward trend and to draw comparisons to other competing firms.

### Uses of Ratio Analysis

#### 1. Comparisons

One of the uses of ratio analysis is to compare a company's financial performance to similar firms in the industry to understand the company's position in the market. Obtaining financial ratios, such as Price/Earnings, from known competitors and comparing it to the company's ratios can help management identify market gaps and examine its competitive advantages, strengths, and weaknesses. The management can then use the information to formulate decisions that aim to improve the company's position in the market.

#### 2. Trend line

Companies can also use ratios to see if there is a trend in financial performance. Established companies collect data from the financial statements over a large number of reporting periods. The trend obtained can be used to predict the direction of future financial performance, and also identify any expected financial turbulence that would not be possible to predict using ratios for a single reporting period.

#### 3. Operational efficiency

The management of a company can also use financial ratio analysis to determine the degree of efficiency in the management of assets and liabilities. Inefficient use of assets such as motor vehicles, land, and building results in unnecessary expenses that ought to be eliminated. Financial ratios can also help to determine if the financial resources are over- or under-utilized.

## FINANCIAL RATIOS

A ratio is an arithmetical relationship between two figures. Financial ratio analysis is a study of ratios between various items or groups of items in financial statements. Financial ratios have been classified in several ways. For our purposes, we divide them into four broad categories as follows:

- Liquidity Ratios

- Leverage / Solvency Ratios
- Turnover Ratios
- Profitability Ratios

### A. Liquidity Ratios

Liquidity refers to the ability of a firm to meet its obligations in the short run, usually one year. Liquidity ratios are generally based on the relationship between current assets (the sources for meeting short-term obligations) and current liabilities. The important liquidity ratios are: current ratio, acid-test ratio, and cash ratio.

**1. Current Ratio:**  $\frac{\text{Current Assets}}{\text{Current liabilities}}$

Current assets include cash, current investments, debtors, inventories (stocks), loans and advances, and pre-paid expenses. Current liabilities represent liabilities that are expected to mature in the next twelve months. These comprise (i) loans, secured or unsecured, that are due in the next twelve months and (ii) current liabilities and provisions.

Normally, a high current ratio is considered to be a sign of financial strength. Bankers in India have used a norm of 1.33. Internationally, the norm is 2.0. In interpreting the current ratio, the composition of current assets must not be overlooked—perhaps inventories may be slow-moving and a portion of loans and advances may represent dues from associate companies which may be sticky.

**Illustration 1:**

Calculate Current Ratio from the following information:

<i>Particulars</i>	<i>(Rs.)</i>
Inventories	50,000
Trade receivables	50,000
Advance tax	4,000
Cash and cash equivalents	30,000
Trade payables	1,00,000
Short-term borrowings (bank overdraft)	4,000

**Solution:**

Current Ratio = Current Assets / Current Liabilities

Current Assets = Inventories + Trade receivables + Advance tax + Cash and cash equivalents  
 = Rs. 50,000 + Rs. 50,000 + Rs. 4,000 + Rs. 30,000 = Rs. 1,34,000

Current Liabilities = Trade payables + Short-term borrowings  
 = Rs. 1,00,000 + Rs. 4,000 = Rs. 1,04,000

Current Ratio = Rs.1,34,000 / Rs.1,04,000  
 = 1.29 :1

**Significance:** It provides a measure of degree to which current assets cover current liabilities. The excess of current assets over current liabilities provides a measure of safety margin available against uncertainty in realisation of current assets and flow of funds. The ratio should be reasonable. It should neither be very high or very low. Both the situations have their inherent disadvantages. A very high current ratio implies heavy investment in current assets which is not a good sign as it reflects under utilisation or improper utilisation of resources. A low ratio endangers the business and puts it at risk of facing a situation where it will not be able to pay its short-term debt on time. If this problem persists, it may affect firm's credit worthiness adversely. Normally, it is safe to have this ratio within the range of 2:1.

**2. Acid-test Ratio / Quick / Liquid Ratio:** 
$$\frac{\text{Current Assets} - \text{Inventories}}{\text{Current liabilities}}$$

Quick assets are defined as current assets excluding inventories and other current assets such as prepaid expenses, advance tax, etc. This is a fairly stringent measure of liquidity as it excludes inventories, perhaps the least liquid of current assets, from the numerator.

**Illustration 2:**

Calculate quick ratio from the information given in illustration 1.

**Solution:**

Quick Ratio = Quick Assets / Current Liabilities

Quick Assets = Current assets – (Inventories + Advance tax)  
= Rs. 1,34,000 – (Rs. 50,000 + Rs. 4,000) = Rs. 80,000

Current Liabilities = Rs. 1,04,000

Quick Ratio = Rs. 80,000 / Rs. 1,04,000  
= 0.77 :1

**Illustration 3:**

X Ltd., has a current ratio of 3.5:1 and quick ratio of 2:1. If excess of current assets over quick assets represented by inventories is Rs. 24,000, calculate current assets and current liabilities.

**Solution:**

Current Ratio = 3.5:1

Quick Ratio = 2:1

Let Current liabilities = x

Current assets = 3.5x

and Quick assets = 2x

Inventories = Current assets – Quick assets

24,000 = 3.5x – 2x

24,000 = 1.5x

x = Rs.16,000

Current Liabilities = Rs.16,000

Current Assets = 3.5x = 3.5 × Rs. 16,000 = Rs. 56,000.

**Significance:** The ratio provides a measure of the capacity of the business to meet its short-term obligations without any flaw. Normally, it is advocated to be safe to have a ratio of 1:1 as unnecessarily low ratio will be very risky and a high ratio suggests unnecessarily deployment of resources in otherwise less profitable short-term investments.

**3. Cash Ratio** Sometimes, financial analysts look at cash ratio, which is defined as:

$$\frac{\text{Cash and bank balances} + \text{Current investments}}{\text{Current liabilities}}$$

This is a very stringent measure of liquidity. Indeed lack of immediate cash may not matter if the firm can stretch its payments or borrow money at short notice.

## B. Leverage / Solvency Ratios

Financial leverage refers to the use of debt finance. While debt capital is a cheaper source of finance, it is also a riskier source of finance. Leverage ratios help in assessing the risk arising from the use of debt capital. Two types of ratios are commonly used to analyse financial leverage: structural ratios and coverage ratios.

**Structural ratios** are based on the proportions of debt and equity in the financial structure of the firm. The important structural ratios are: debt-equity ratio and debt-assets ratio.

**Coverage ratios** show the relationship between debt servicing commitments and the sources for meeting these burdens. The important coverage ratios are: interest coverage ratio, fixed charges coverage ratio, and debt service coverage ratio.

### 1. Debt-equity Ratio

Debt-Equity Ratio measures the relationship between long-term debt and equity. If debt component of the total long-term funds employed is small, outsiders feel more secure. From security point of view, capital structure with less debt and more equity is considered favourable as it reduces the chances of bankruptcy. Normally, it is considered to be safe if debt equity ratio is 2 : 1. However, it may vary from industry to industry. It is computed as follows:

$$\text{Debt-Equity Ratio} = \text{Long Term Debts} / \text{Shareholders' Funds}$$

where:

Shareholders' Funds (Equity) = Share capital + Reserves and Surplus + Money received against share warrants

Share Capital = Equity share capital + Preference share capital

or

Shareholders' Funds (Equity) = Non-current Assets + Working capital – Non-current liabilities

Working Capital = Current Assets – Current Liabilities

**Significance:** This ratio measures the degree of indebtedness of an enterprise and gives an idea to the long-term lender regarding extent of security of the debt. As indicated earlier, a low debt equity ratio reflects more security. A high ratio, on the other hand, is considered risky as it may put the firm into difficulty in meeting its obligations to outsiders. However, from the perspective of the owners, greater use of debt (trading on equity) may help in ensuring higher returns for them if the rate of earnings on capital employed is higher than the rate of interest payable.

**Illustration 4:**

From the following balance sheet of a company, calculate Debt-Equity Ratio:

**Balance Sheet**

<i>Particulars</i>	<i>Note No.</i>	<i>Amount (Rs.)</i>
<b>I. Equity and Liabilities</b>		
1. Shareholders' funds		
(a) Share capital		8,00,000
(b) Reserves and Surplus	1	1,00,000
2. Share application money pending allotment		2,00,000
3. Non-Current Liabilities		
Long-term borrowings		1,50,000
Current liabilities		1,50,000
<b>Total</b>		<b>14,00,000</b>
<b>II. Assets</b>		
1. Non-Current Assets		
a) Fixed assets		
Tangible assets	2	11,00,000
2. Current Assets		
a) Inventories		1,00,000
b) Trade receivables		90,000
c) Cash and cash equivalents		1,10,000
<b>Total</b>		<b>14,00,000</b>

<i>Notes to Accounts</i>	<i>Rs.</i>
<b>1. Share Capital</b>	
Equity Share Capital	6,00,000
Preference Share Capital	2,00,000
<b>Total</b>	<b>8,00,000</b>
<b>2. Tangible Assets:</b>	
Plant and Machinery	5,00,000
Land and Building	4,00,000
Motor Car	1,50,000
Furniture	50,000
<b>Total</b>	<b>11,00,000</b>

**Solution:**

Debt-Equity Ratio = Long - term Debts / Equity (Shareholders' Funds)

Long-term Debts = Long-term Borrowings = Rs. 1,50,000

Equity = Share capital + Reserves and surplus

= Rs. 8,00,000 + Rs. 1,00,000 = Rs. 9,00,000

Debt Equity Ratio = 1,50,000 / 9,00,000

= .1667

- 2. Debt to Capital Employed Ratio:** The Debt to capital employed ratio refers to the ratio of long-term debt to the total of external and internal funds (capital employed or net assets). It is computed as follows:

Debt to Capital Employed Ratio = Long-term Debt/Capital Employed (or Net Assets)

Capital employed is equal to the long-term debt + shareholders' funds. Alternatively, it may be taken as net assets which are equal to the total assets – current liabilities

**Significance:** Like debt-equity ratio, it shows proportion of long-term debts in capital employed. Low ratio provides security to lenders and high ratio helps management in trading on equity. In the above case, the debt to Capital Employed ratio is less than half which indicates reasonable funding by debt and adequate security of debt. It may be noted that Debt to Capital Employed Ratio can also be computed in relation to total assets. In that case, it usually refers to the ratio of total debts (long-term debts + current liabilities) to total assets, i.e., total of noncurrent and current assets (or shareholders' funds + long-term debts + current liabilities), and is expressed as

Debt to Capital Employed Ratio = Total Debts / Total Assets

**Illustration 5:**

Company A lists Rs. 40,00,000 in short-term liabilities and Rs. 70,00,000 in long-term liabilities on their balance sheet. They've also issued Rs. 20,00,000 in preferred stock, Rs. 5,00,000 in minority interest, and have around Rs. 8,00,000 outstanding shares trading at Rs. 10 per share. Using all that information, calculate the debt-to-capital ratio.

**Solution:**

Debt-to-Capital Ratio = (Rs. 40 lakhs + Rs. 70 lakhs) / (Rs. 40 lakhs + Rs. 70 lakhs) + (Rs. 20 lakhs + Rs. 5 lakhs) + (Rs. 8 lakhs x Rs. 10)

= 110 lakhs / 215 lakhs

= 0.512

In other words, 51.2% of Company A's operations are funded with debt, rather than capital. This makes it a relatively risky proposition, as the business is aggressively financing growth activities with debt.

- 3. Interest Coverage Ratio** Also called the times interest earned, the interest coverage ratio is defined as:

$$\frac{\text{Profit before interest and taxes}}{\text{Interest on Long term debts}}$$

Profit before interest and taxes are used in the numerator of this ratio because the ability of a firm to pay interest is not affected by tax payment, as interest on debt funds is a tax-deductible expense. A high interest

coverage ratio means that the firm can easily meet its interest burden even if earnings before interest and taxes suffer a considerable decline. A low interest coverage ratio may result in financial embarrassment when earnings before interest and taxes decline. This ratio is widely used by lenders to assess a firm's debt capacity. Further, it is a major determinant of bond rating.

**Significance:** It reveals the number of times interest on long-term debts is covered by the profits available for interest. A higher ratio ensures safety of interest on debts.

Though widely used, this ratio is not a very appropriate measure of interest coverage because the source of interest payment is cash flow before interest and taxes, not earnings before interest and taxes. In view of this, we may use a modified interest coverage ratio:

$$\frac{\text{Profit before interest and taxes} + \text{Depreciation}}{\text{Debt interest}}$$

**Illustration 6:**

From the following details, calculate interest coverage ratio: Net Profit after tax Rs. 60,000; 15% Long-term debt 10,00,000; and Tax rate 40%.

**Solution:**

Net Profit after Tax = Rs. 60,000

Tax Rate = 40%

Net Profit before tax = Net profit after tax  $\times$  100/(100 – Tax rate)  
= Rs. 60,000  $\times$  100/(100 – 40) = Rs. 1,00,000

Interest on Long-term Debt = 15% of Rs. 10,00,000 = Rs. 1,50,000

Net profit before interest and tax = Net profit before tax + Interest  
= Rs. 1,00,000 + Rs. 1,50,000 = Rs. 2,50,000

Interest Coverage Ratio = Net Profit before Interest and Tax/Interest on long-term debt  
= Rs. 2,50,000/Rs. 1,50,000  
= 1.67 times

- 4. Fixed Charges Coverage Ratio** This ratio shows how many times the cash flow before interest and taxes covers all fixed financing charges. It is defined as:

$$\frac{\text{Profit before interest and taxes} + \text{Depreciation}}{\text{Repayment of loan Interest} + (1 - \text{Tax rate})}$$

In the denominator of this ratio only the repayment of loan is adjusted upwards for the tax factor because the loan repayment amount, unlike interest, is not tax deductible.

This ratio measures debt servicing ability comprehensively because it considers both the interest and the principal repayment obligations. The ratio may be amplified to include other fixed charges like lease payment and preference dividends.

The fixed charge coverage ratio has to be interpreted with care because short-term loan funds like working capital loans and commercial paper tend to be self-renewing in nature and hence do not have to be ordinarily repaid from cash flows generated by operations. Hence, a fixed charge coverage ratio of less 1 need not be viewed with much concern.

**5. Debt Service Coverage Ratio** Used by financial institutions in India, the debt service coverage ratio is defined as:

$$\frac{\text{Profit after tax + Depreciation + Other non-cash charges}}{\text{Interest on term loan + Lease rentals + Repayment of term loan}}$$

**Significance:** Financial institutions calculate the average debt service coverage ratio for the period during which the term loan for the project is repayable. Normally, financial institutions regard a debt service coverage ratio of 1.5 to 2.0 as satisfactory. The Debt Service Coverage Ratio can be a very helpful metric for assessing a company's overall financial health, and specifically how capable it is of servicing its current debt. The ratio can also assist lenders and investors in determining whether it's safe for the company to take on additional debt financing.

### C. Turnover Ratios

Turnover ratios, also referred to as activity ratios or asset management ratios, measure how efficiently the assets are employed by a firm. These ratios are based on the relationship between the level of activity, represented by sales or cost of goods sold, levels of various assets. The important turnover ratios are: inventory turnover, average collection period, receivables turnover, fixed assets turnover, and total assets turnover.

**1. Inventory Turnover:** The inventory turnover, or stock turnover, measures how fast the inventory is moving through the firm and generating sales. It is defined as:

$$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

**Significance:** The inventory turnover reflects the efficiency of inventory management. The higher the ratio, the more efficient the management of inventories and *vice versa*. However, this may not always be true. A high inventory turnover may be caused by a low level of inventory which may result in frequent stock outs and loss of sales and customer goodwill.

Note that as inventories tend to change over the year, we use the average of the inventories at the beginning and the end of the year. *In general, averages may be used when a flow figure (such as, cost of goods sold) is related to a stock figure (inventories).*

#### Illustration 7:

From the following information, calculate inventory turnover ratio :

	<b>Rs.</b>
Inventory in the beginning =	18,000
Inventory at the end =	22,000
Net purchases =	46,000
Wages =	14,000
Revenue from operations =	80,000
Carriage inwards =	4,000

**Solution:**

Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory

Cost of Goods Sold = Inventory in the beginning + Net Purchases + Wages + Carriage inwards – Inventory at the end = Rs. 18,000 + Rs. 46,000 + Rs. 14,000 + Rs. 4,000 – Rs. 22,000 = Rs. 60,000

Average Inventory = (Inventory in the beginning + Inventory at the end) / 2  
 = (Rs. 18,000 + Rs. 22,000) / 2  
 = Rs. 20,000

Inventory Turnover Ratio = Rs. 60,000 / Rs. 20,000 = 3 Times

**Illustration 8:**

From the following information, calculate inventory turnover ratio:

	<b>Rs.</b>
Revenue from operations =	4,00,000
Average Inventory =	55,000
Gross Profit Ratio =	10%

**Solution:**

Revenue from operations = Rs. 4,00,000

Gross Profit = 10% of Rs. 4,00,000 = Rs. 40,000

Cost of Revenue from operations = Revenue from operations – Gross Profit = Rs. 4,00,000 – Rs. 40,000 = Rs. 3,60,000

Inventory Turnover Ratio = Cost of Revenue from Operations / Average Inventory  
 = Rs. 3,60,000 / Rs. 55,000 = 6.55 times

- 2. Debtors' Turnover** This ratio shows how many times sundry debtors (accounts receivable) turn over during the year. It is defined as:

$$\frac{\text{Net credit sales}}{\text{Average sundry debtors}}$$

If the figure for net credit sales is not available, one may have to make do with the net sales figure. Obviously, the higher the debtors' turnover the greater the efficiency of credit management. Average Collection Period  
 The average collection period represents the number of days' worth of credit sales that is locked in sundry debtors. It is defined as:

$$\frac{\text{Average sundry debtors}}{\text{Average daily credit sales}}$$

Note that the average collection period and the debtors' turnover are related as follows:

Average collection period =

$$\frac{365}{\text{Debtors' turnover}}$$

The average collection period may be compared with the firm's credit terms to judge the efficiency of credit management. For example, if the credit terms are 2/10, net 45, an average collection period of 85 days means that the collection is slow and an average collection period of 40 days means that the collection is prompt. An average collection period which is shorter than the credit period allowed by the firm needs to be interpreted carefully. It may mean efficiency of credit management or excessive conservatism in credit granting that may result in the loss of some desirable sales.

**Illustration 9:**

Calculate the Trade receivables turnover ratio from the following information:

	<b>Rs.</b>
Total Revenue from operations	4,00,000
Cash Revenue from operations	20% of Total Revenue from operations
Trade receivables as at 1.4.2021	40,000
Trade receivables as at 31.3.2022	1,20,000

**Solution:**

Trade Receivables Turnover Ratio = Net Credit Revenue from Operations / Average Trade Receivables

Credit Revenue from operations = Total revenue from operations – Cash revenue from operations

Cash Revenue from operations = 20% of Rs. 4,00,000 = Rs. 80,000

Credit Revenue from operations = Rs. 4,00,000 – Rs. 80,000 = Rs. 3,20,000

Average Trade Receivables = (Opening Trade Receivables + Closing Trade Receivables) / 2 = (Rs. 40,000 + Rs. 1,20,000) / 2 = Rs. 80,000

Trade Receivables Turnover Ratios = Net Credit Revenue From Operations / Average Inventory

Trade Receivables Turnover Ratio = Rs. 3,20,000 / Rs. 80,000 = 4 times.

**3. Fixed Assets Turnover** This ratio measures sales per rupee of investment in fixed assets. It is defined as:

$$\frac{\text{Net sales}}{\text{Average net fixed assets}}$$

This ratio is supposed to measure the efficiency with which fixed assets are employed - a high ratio indicates a high degree of efficiency in asset utilisation and a low ratio reflects inefficient use of assets. However, in interpreting this ratio, one caution should be borne in mind. When the fixed assets of the firm are old and substantially depreciated, the fixed assets turnover ratio tends to be high because the denominator of the ratio is very low.

**4. Total Assets Turnover:** Akin to the output-capital ratio in economic analysis, the total assets turnover is defined as:

$$\frac{\text{Net sales}}{\text{Average total assets}}$$

This ratio measures how efficiently assets are employed, overall.

## D. Profitability Ratios

Profitability reflects the final result of business operations. There are two types of profit ability ratios: profit margin ratios and rate of return ratios. *Profit margin ratios* show the relationship between profit and sales. Since profit can be measured at different stages, there are several measures of profit margin. The most popular profit margin ratios are: gross profit margin, operating profit margin, and net profit margin. *Rate of return ratios* reflect the relationship between profit and investment. The important rate of return measures are: return on assets, earning power, return on capital employed, and return on equity.

**1. Gross Profit Margin** The gross profit margin ratio is defined as:

$$\frac{\text{Gross profit}}{\text{Net sales / Revenue}}$$

Gross profit is defined as the difference between net sales and cost of goods sold.

This ratio shows the margin left after meeting manufacturing costs. It measures the efficiency of production as well as pricing. To analyse the factors underlying the variation in gross profit margin the proportion of various elements of cost (labour, materials, and manufacturing overheads) to sales may be studied in detail.

**Significance:** It indicates gross margin on products sold. It also indicates the margin available to cover operating expenses, non-operating expenses, etc. Change in gross profit ratio may be due to change in selling price or cost of revenue from operations or a combination of both. A low ratio may indicate unfavourable purchase and sales policy. Higher gross profit ratio is always a good sign.

### **Illustration 10:**

Following information is available for the year 2022-23, calculate gross profit margin ratio:

Revenue from Operations:

Cash 25,000

Credit 75,000

Purchases:

Cash 15,000

Credit 60,000

Carriage Inwards 2,000

Salaries 25,000

Decrease in Inventory 10,000

Return Outwards 2,000

Wages 5,000

### **Solution:**

Revenue from Operations = Cash Revenue from Operations + Credit Revenue from Operation = Rs. 25,000 + Rs.75,000 = Rs. 1,00,000

Net Purchases = Cash Purchases + Credit Purchases – Return Outwards = Rs.15,000 + Rs.60,000 – Rs.2,000 = Rs. 73,000

Cost of Revenue from operation = Purchases + (Opening Inventory – Closing Inventory) + Direct Expenses  
 = Purchases + Decrease in inventory + Direct Expenses = Rs.73,000 + Rs.10,000 + (Rs.2,000 + Rs.5,000)  
 = Rs.90,000

Gross Profit = Revenue from Operations – Cost of Revenue from Operation = Rs.1,00,000 – Rs.90,000  
 = Rs. 10,000

Gross Profit Ratio = Gross Profit/Net Revenue from Operations × 100 = Rs.10,000/Rs.1,00,000 × 100 = 10%.

**2. EBITDA Margin** The EBITDA margin is defined as:

$$\frac{\text{Earnings before interest, taxes, depreciation, and amortisation}}{\text{Net sales}}$$

This ratio shows the margin left after meeting manufacturing expenses, selling, general, and administration expenses (SG&A). It reflects the operating efficiency of the firm.

**Illustration 11:**

Given the following information:

Revenue from Operations	3,40,000
Cost of Revenue from Operations	1,20,000
Selling expenses	80,000
Administrative Expenses	40,000

Calculate Gross profit ratio and EBITDA margin

**Solution:**

Gross Profit = Revenue from Operations – Cost of Revenue from Operations  
 = Rs. 3,40,000 – Rs. 1,20,000 = Rs. 2,20,000

Gross Profit Ratio = (Gross Profit / Revenue from operation) × 100  
 = (Rs. 2,20,000 / Rs. 3,40,000) × 100  
 = 64.71%

EBITDA Margin = {(Gross Profit - Selling Expenses - Administrative Expenses) / Revenue from operation} × 100  
 = {(Rs. 2,20,000 - 80,000 - 40,000) / 340000} × 100  
 = 29.41%

**3. Net Profit Margin** The net profit margin ratio is defined as:

$$\frac{\text{Net profit} \times 100}{\text{Net sales}}$$

This ratio shows the earnings left for shareholders (both equity and preference) as a percentage of net sales. It measures the overall efficiency of production, administration, selling, financing, pricing, and tax management. Jointly considered, the gross and net profit margin ratios provide a valuable understanding of the cost and profit structure of the firm and enable the analyst to identify the sources of business efficiency/ inefficiency.

**Illustration 12:**

Gross profit ratio of a company was 25%. Its credit revenue from operations was Rs. 20,00,000 and its cash revenue from operations was 10% of the total revenue from operations. If the indirect expenses of the company were Rs. 50,000, calculate its net profit ratio.

**Solution:**

Cash Revenue from Operations = Rs.20,00,000 × 10/90 = Rs. 2,22,222

Hence, total Revenue from Operations are = Rs.22,22,222

Gross profit = 0.25 × 22,22,222 = Rs. 5,55,555

Net profit = Rs.5,55,555 – 50,000 = Rs.5,05,555

Net profit ratio = Net profit/Revenue from Operations × 100

= Rs.5,05,555/Rs.22,22,222 × 100 = 22.75%

**4. Return on Assets** The return on assets (ROA) is defined as:

$$\text{ROA} = \frac{\text{Profit after tax}}{\text{Average total assets}}$$

Though widely used, ROA is an odd measure because its numerator measures the return to shareholders (equity and preference) whereas its denominator represents the contribution of all investors (shareholders as well as lenders).

**5. Earning Power** The earning power is defined as:

$$\text{Earning power} = \frac{\text{Profit before interest and tax}}{\text{Average total assets}}$$

Earning power is a measure of business performance which is not affected by interest charges and tax burden. It abstracts away the effect of capital structure and tax factor and focuses on operating performance. Hence it is eminently suited for inter-firm comparison. Further, it is internally consistent. The numerator represents a measure of pre-tax earnings belonging to all sources of finance and the denominator represents total financing.

**6. Return on Capital Employed** The return on capital employed is defined as:

$$\text{ROCE} = \frac{\text{Profit before interest and tax (1 - Tax rate)}}{\text{Average total assets}}$$

The numerator of this ratio viz., profit before interest and tax (1 - Tax rate) is also called net operating profit after tax (NOPAT).

ROCE is the post-tax version of earning power. It considers the effect of taxation, but not the capital structure. It is internally consistent. Its merit is that it is defined in such a way that it can be compared directly with the post-tax weighted average cost of capital of the firm.

**7. Return on Equity** A measure of great interest to equity shareholders, the return on equity (ROE) is defined as:

$$\frac{\text{Equity earnings}}{\text{Average equity}}$$

The numerator of this ratio is equal to profit after tax less preference dividends. The denominator includes all contributions made by equity shareholders (paid-up capital + reserves and surplus). This ratio is also called the return on net worth.

The return on equity measures the profitability of equity funds invested in the firm. Because maximising shareholder wealth is the dominant financial objective, ROE is the most important measure of performance in an accounting sense. It is influenced by several factors: earning power, debt-equity ratio, average cost of debt funds, and tax rate. Because ROA and ROE are commonly used measure, you must remember that they are accounting rates of return. Hence these measures may be properly referred to as *return on book assets* and *return on book equity*.

In judging all the profitability measures it should be borne in mind that the historical valuation of assets imparts an upward bias to profitability measures during an inflationary period. This happens because the numerator of these measures represents current values, whereas the denominator represents historical values.

### Comparison with Industry Averages

We have discussed a long list of financial ratios. For judging whether the ratios are high or low, one has to make a comparative analysis such as a cross-section analysis (in which the industry averages may be used as benchmarks) or time series analysis (in which the ratios of the firm are compared over time).

The table below shows the ratios of ABC Limited along with industry averages. Note that the industry averages often provide useful benchmarks for comparisons. Sometimes the ratios of few competitor firms may be used as benchmarks.

**Comparison of Ratios of ABC Limited with Industry Average**

<i>Ratio</i>	<i>Formula</i>	<i>ABC Limited</i>	<i>Industry Average</i>
<b>Liquidity</b>			
▪ Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	1.32	1.26
▪ Acid-test ratio	$\frac{\text{Quick assets}}{\text{Current liabilities}}$	0.73	0.69
<b>Leverage</b>			
▪ Debt-equity ratio	$\frac{\text{Debt}}{\text{Equity}}$	0.81	1.25
▪ Debt-ratio	$\frac{\text{Debt}}{\text{Assets}}$	0.45	0.56

<i>Ratio</i>	<i>Formula</i>	<i>ABC Limited</i>	<i>Industry Average</i>
▪ Interest coverage ratio	$\frac{\text{EBIT}}{\text{Interest}}$	4.23	4.14
<b>Turnover</b>			
▪ Inventory turnover	$\frac{\text{Net sales}}{\text{Average inventory}}$	6.24	6.43
▪ Accounts receivable turnover	$\frac{\text{Net credit sales}}{\text{Average accounts receivable}}$	7.70	7.50
▪ Fixed assets turnover	$\frac{\text{Net sales}}{\text{Average net fixed assets}}$	2.15	2.23
<b>Total assets turnover</b>	$\frac{\text{Net sales}}{\text{Average total assets}}$	1.582	2.26
<b>Profitability</b>			
▪ Gross profit margin	$\frac{\text{Gross profit}}{\text{Net sales}}$	21.0%	18.0%
▪ Net profit margin	$\frac{\text{Net profit}}{\text{Net sales}}$	4.9%	4.0%
▪ Return on assets	$\frac{\text{Net profit}}{\text{Average total assets}}$	7.7%	6.9%
▪ Earning power	$\frac{\text{PBIT}}{\text{Average total assets}}$	20.1%	17.7%
▪ Return on capital employed	$\frac{\text{PBIT} (1 - T)}{\text{Average total assets}}$	10.1%	8.8%
▪ Return on equity	$\frac{\text{Equity earnings}}{\text{Average net worth}}$	13.1%	11.9%

**Comparing the ratios of ABC Limited with industry averages we find that:**

- ABC Limited has a favourable liquidity position. All the liquidity ratios of ABC Limited are higher than the industry average.
- Leverage ratios of ABC Limited are a shade lower than the industry average.

- Turnover ratios of ABC Limited are more or less comparable with the industry average.
- Profit margin ratios of ABC Limited are somewhat higher than the industry average. The rate of return measures of ABC Limited are also higher than the industry average.

## DU PONT ANALYSIS

The du pont analysis is used to measure the company's financial performance in more detail by showing how the net profit margin, total asset turnover and equity multiplier to determine the rate of return on equity. In conducting this du pont system analysis, it can provide information about various factors that cause financial performance ups and downs in a company. In fact, this method is almost the same as analyzing ordinary financial statements, but the approach is more integrative by using the composition of financial statements that are used as elements of its analysis, namely by analyzing financial ratios so that companies can find out various factors that can affect the effectiveness of the company in managing the resources owned by the company, so that the company's financial plan will be better in the future. The purpose of this analysis can be used to determine the extent of the effectiveness of a company in managing company assets from sales made by generating profits, so this analysis includes various financial ratios.

To make investing decisions, many a times we want to compare the business models of companies in one sector to understand if we can explain the differences in valuation and also which company has better financial metrics.

**For example:** A Ltd. and B Ltd. have been two big "Made in India" success stories in the FMCG sector. It would be interesting to compare these two amazing companies. The Market Cap of the two companies are very similar as the table below shows, the stock market has been recognizing the potential of these companies and the 10 year price returns of these two companies are far higher than that of Hindustan Unilever and the overall market.

<i>Company</i>	<i>Market Cap</i>	<i>10 Year Return</i>
A Ltd.	Rs. 797 bn	1958%
B Ltd.	Rs. 769 bn	854%
Hindustan Unilever	Rs. 3449 bn	539%
BSE Sensex	–	190%

After this phenomenal performance over the past few years, interestingly the Current Market Cap of these two companies is very similar.

### Two companies, two different approaches

These two companies with long legacies of more than 120+ years each have taken different paths to achieve success. A Ltd. describes itself as "One of the Best Ayurvedic Companies in India" whereas B Ltd. calls itself the "Largest home-grown home and personal care company in India."

### Both have global ambitions

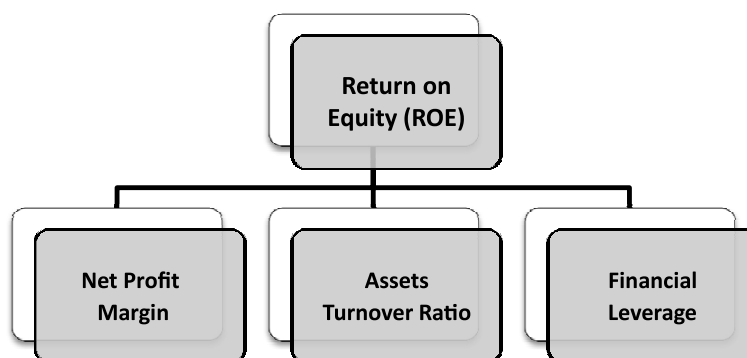
A's Ltd. products are today available in over 120 countries across the globe. A's overseas revenue today accounts for over 30% of the total turnover while B Ltd. is largest household insecticide and hair care players in emerging markets. In household insecticides, they are the leader in India, the second largest player in Indonesia and are now expanding our footprint in Africa. They are the leader in hair extensions in Africa, the number one player in hair colour in India and Sub-Saharan Africa and among the leading players in Latin America. They are the number one player in air fresheners and wet tissues in Indonesia.

### Both Have a Large and Diverse Portfolio

A Ltd. today operates in key consumer product categories like Hair Care, Oral Care, Health Care, Skin Care, Home Care and Foods. A Ltd. India has portfolio of over 250 Herbal/Ayurvedic products. A's FMCG portfolio today includes five flagship brands with distinct brand identities. B Ltd. Consumer's products include soap, hair colourants, toiletries and liquid detergents.

### How do the Financials of these two companies stack up?

A very interesting tool to compare the business model of two companies in similar businesses is the DuPont Analysis. The genesis of the analysis was a framework developed by the DuPont Corporation of the USA. DuPont analysis is great measure of fundamental performance of a company. This analysis decomposes the key drivers of Return on Equity (ROE). ROE is one of the most important measure of a company's profitability.



Return on Equity = Net Profit Margin x Asset Turnover Ratio x Financial Leverage

- *Net Profit Margin = (Net Income / Sales)* - The Net Profit Margin signifies the Profit that is extracted per rupee of Sales. Everything else remaining same, a company which has a higher Net Profit Margin has a higher ROE.
- *Asset Turnover Ratio = (Sales / Total Assets)* - This ratio is an efficiency measurement used to determine how effectively a company uses its assets to generate revenue. Higher the Asset Turnover Ratio, higher the ROE, everything else remaining the same.
- *Financial Leverage = (Total Assets / Total Equity)* - Financial Leverage measure whether a company finances the purchase of assets primarily through debt or equity. The higher the Financial Leverage the higher the ROE. Financial Leverage when it becomes excessive can increase the risk of bankruptcy.

So, what does the Dupont Analysis tells us for A Ltd and B Ltd.?

<b>Consolidated (Rs. Cr)</b>	<b>A Ltd. FY 2022</b>	<b>B Ltd. FY 2022</b>
Total Sales	8054	10045
Net Profits	5733	6258
Net Assets	6424	9852
Total Equity	1358	1671

<i>Particulars</i>	<i>A Ltd. FY 2022</i>	<i>B Ltd. FY 2022</i>
Net Profit Margin	71.18%	62.29%
Asset Turnover Ratio	1.25	1.02
Financial Leverage	1.12	1.57
Return on Equity	23.6%	26.6%

The ROEs of B Ltd. is 3% higher than A Ltd. So one would think that B Ltd. has better Financial metrics. However, a Deeper look at the Dupont Analysis reveals a different story.

While the Net Profit Margins for the two companies are similar, A Ltd. utilises its assets better than B Ltd. as can be seen in the Asset Turnover Ratio of A Ltd. at 1.25 vs B Ltd. at 1.02. Also, B Ltd.'s ROE is enhanced by taking a higher Financial Leverage. So in effect, A Ltd. has better financial metrics than B Ltd.

In general, the Stock Market gives a higher Valuation to a company which has better Financial Metrics. This analysis was just to highlight the simplicity of Dupont Analysis and its power.

## READING AND INTERPRETATION OF FINANCIAL STATEMENT

Financial statement analysis (or financial analysis) is the process of reviewing and analyzing a company's financial statements to make better economic decisions to earn income in future. These statements include the income statement, balance sheet, statement of cash flows, notes to accounts and a statement of changes in equity (if applicable). Financial statement analysis is a method or process involving specific techniques for evaluating risks, performance, financial health, and future prospects of an organization.

It is used by a variety of stakeholders, such as credit and equity investors, the government, the public, and decision-makers within the organization. These stakeholders have different interests and apply a variety of different techniques to meet their needs. For example, equity investors are interested in the long-term earnings power of the organization and perhaps the sustainability and growth of dividend payments. Creditors want to ensure the interest and principal is paid on the organizations debt securities (e.g., bonds) when due.

There are three major financial statements: the balance sheet, profit-and-loss statement and cash-flow statement. The balance sheet tells you about the assets and liabilities of a company. The profit-and-loss statement tells you about a company's profitability and the cash-flow statement is about the flow of cash into and out of a company.

**Balance sheet:** The balance sheet shows the assets that a business owns, the liabilities that it owes and the funds contributed by its shareholders.

Assets = Liabilities + Owners' equity.

Assets include land, equipment, inventory, goodwill, patents, brand value, etc. Liabilities include debt (long-term and short-term) and any other payables that a business has. Shareholder funds are in the form of equity and reserves.

A weak balance sheet is one that is saddled with debt. When a business has a strong balance sheet, it has more assets and equity than liabilities. In order to know the balance-sheet strength, can look at the debt-equity ratio.

**Profit and loss Statement:** As its name suggests, the P&L statement tells about the profitability of a company. The simple formula to calculate profits is Profit (loss) = Revenue - Expenses.

The head 'revenue' generally has two entries: revenue from sales and other income. Other income is the revenue from sources other than the core area of the company's operations. For instance, it could be income from investments, dividends, royalties, etc.

The head 'expenses' constitutes the categories of expenditure such as cost of raw materials, employee costs, etc. On subtracting the total costs from the total revenues, we get the 'operating profit', which is nothing but a company's profit from its core operations.

In order to arrive at the final profit figure, any miscellaneous income or loss is to be added to or subtracted from the operating profit. Finally, net profit is obtained after deducting the tax applicable.

### **Cash-flow statement**

The cash-flow statement shows the movement of cash in a business. While businesses can misstate their profits through accounting jugglery, they can't fudge the movement of cash. Hence, a cash-flow statement provides a true picture of a company's financial health. However, for banks and finance companies, the cash-flow statement is of limited use as they follow a different business model than other types of businesses.

The cash-flow statement has three components: cash flows from operating activities, from financing activities and from investing activities. The statement also mentions the current cash holding of the business.

What need to check in the data is whether flows from operating activities are positive or not. If they are positive, it means that the company is able to generate cash from its operations. If they are negative, it means that the company is losing money. While it may show profits in its P&L statement, negative flows from operations should ring an alarm.

Cash flows from financing activities show the money raised for the company's operations or the money paid towards debt repayment. The former will be a positive number on the statement, while the latter will be a negative number.

Cash flows from investing activities capture the cash used in investments. For instance, a business that has generated surplus cash may park it in a bank fixed deposit. Next year it may withdraw cash from that FD. The former will be a negative number on the statement, while the latter will be a positive number.

The balance sheet, profit-and-loss statement, as well as the cash-flow statement contain the data necessary to guide investors looking to invest in a company. Ratios used in analysing stocks also require figures and data contained in these statements, without which a thorough analysis is impossible. All these statements may be found in the annual reports of companies.

Common methods of financial statement analysis include fundamental analysis, DuPont analysis, and the use of financial ratios. Historical information combined with a series of assumptions and adjustments to the financial information may be used to project future performance.

### **Analysis of Auditors Report and Opinion**

The objective of the reporting phase of a financial audit is to present an informed opinion about a business's financial statements, including whether they conform to generally accepted accounting principles. Even though the report contains only three sections, the impact it can have on the future of a business makes being able to read and understand its contents crucial.

A financial audit report is the final step of an external financial audit. After planning the audit and gathering necessary information, an auditor then must interpret results. Although the information an auditor collects through inquiry, observation, inspection, calculations, comparisons and analysis is "fact," the report itself expresses the opinion of the auditor.

The introductory section identifies the responsibilities of the company director and the independent auditor. Regardless of how large the company or financial accounting department, the auditor holds the company director responsible for accounting policies, the preparation of financial documents, internal business controls designed to ensure the financial documents are honest and correct and the presentation of financial statements to the auditor. The auditor takes responsibility for expressing an opinion based only on the facts and for complying with ethical and legal auditing guidelines during the planning and information-gathering stages of the financial audit.

Scope of the audit -- the area it covers -- is the second and shortest section. It provides a description of what the auditor has done and includes a blanket statement -- a statement common to and for the most part identical in every audit report -- that specifically states the auditor has examined the financial statements of the business in accordance with generally accepted auditing standards and has performed appropriate tests to make a reasonable assessment of the business's financial processes, internal controls and documents.

### **Auditor's Opinion**

The auditor's opinion is the most important section of the audit report. Here the auditor sums up findings by expressing one of three generally accepted opinions or includes a disclaimer, which means the auditor refuses to give an opinion, most often because the business either can't or won't produce the appropriate documents or information. The most favorable opinion is an unqualified opinion, meaning the company director provided all the necessary financial documents and everything was in order and met all auditing requirements. A qualified opinion means that while the majority of documents were in order, the auditor did find one or two exceptions. An adverse opinion is an opinion no business wants; this negative opinion says the business financial records are inaccurate, incomplete or not in compliance with generally accepted accounting principles.

### **Analysis of Management Judgement**

Management Personal judgement plays a vital role in the preparation of financial records and financial statements. The management may use their judgement in choosing the method of valuation of closing inventory, in calculating the provision for bad debts and in choosing the method of charging the depreciation of fixed assets. Likewise, the application of various accounting concepts and conventions depends upon the personal judgement of the management. Therefore, different meaning and results can be obtained from the financial statements of the same company. Based on the different results, different recommendations may be provided for the growth and development of a business concern.

### **Problems in Financial Statement Analysis**

**Lack of an Underlying Theory** The basic problem in financial statement analysis is that there is no theory that tells us which numbers to look at and how to interpret them. In the absence of an underlying theory financial statement analysis appears to be ad hoc, informal, and subjective. As Horrigan put it: "From a negative viewpoint, the most striking aspect of ratio analysis is the absence of an explicit theoretical structure. As a result the subject of ratio analysis is replete with untested assertions about which ratios should be used and what their proper levels should be."

**Conglomerate Firms** Many firms, particularly the large ones, have operations spanning a wide range of industries. Given the diversity of their product lines, it is difficult to find suitable benchmarks for evaluating their financial performance and condition. Hence, it appears that meaningful benchmarks may be available only for firms which have a well-defined industry classification.

**Window Dressing** Firms may resort to window dressing to project a favourable financial picture. For example, a firm may prepare its balance sheet at a point when its inventory level is very low. As a result, it may appear that the firm has a very comfortable liquidity position and a high turnover of inventories. When window dressing of

this kind is suspected, the financial analyst should look at the average level of inventory over a period of time and not the level of inventory at just one point of time.

**Price Level Changes** Financial accounting, as it is currently practised in India and most other countries, does not take into account price level changes. As a result, balance sheet figures are distorted and profits misreported. Hence, financial statement analysis can be vitiated.

**Variations in Accounting Policies** Business firms have some latitude in the accounting treatment of items like depreciation, valuation of stocks, research and development expenses, foreign exchange transactions, installment sales, preliminary and pre-operative expenses, provision of reserves, and revaluation of assets. Due to diversity of accounting policies found in practice, comparative financial statement analysis may be vitiated.

**Interpretation of Results** Though industry averages and other yardsticks are commonly used in financial ratios, it is somewhat difficult to judge whether a certain ratio is 'good' or 'bad'. A high current ratio, for example, may indicate a strong liquidity position (something good) or excessive inventories (something bad). Likewise, a high turnover of fixed assets may mean efficient utilisation of plant and machinery or continued flogging of more or less fully depreciated, worn out, and inefficient plant and machinery.

Another problem in interpretation arises when a firm has some favourable ratios and some unfavourable ratios and this is rather common. In such a situation, it may be somewhat difficult to form an overall judgment about its financial strength or weakness. Multiple discriminate analysis, a statistical tool, may be employed to sort out the net effect of several ratios pointing in different directions.

**Correlation among Ratios** Notwithstanding the previous observation, financial ratios of a firm often show a high degree of correlation. Why? This is because several ratios have some common element (sales, for example, is used in various turnover ratios) and several items tend to move in harmony because of some common underlying factor. In view of ratio correlations, it is redundant and often confusing to employ a large number of ratios in financial statement analysis. Hence it is necessary to choose a small group of ratios from a large set of ratios. Such a selection requires a good understanding of the meaning and limitations of various ratios and an insight into the economics of the business.

### Guidelines for Financial Statement Analysis

From the foregoing discussion, it is clear that financial statement analysis cannot be treated as a simple, structured exercise. The following point to be taken into consideration while analyse financial statements.

- 1. Use ratios to get clues to ask the right questions:** By themselves ratios rarely provide answers, but they definitely help to raise the right questions.
- 2. Be selective in the choice of ratios:** Compute scores of different ratios and easily drown into confusion. For most purposes a small set of ratios-three to seven-would suffice. Few ratios, aptly chosen, would capture most of the information that can derive from financial statements.
- 3. Employ proper benchmarks:** It is a common practice to compare the ratios (calculated from a set of financial statements) against some benchmarks. These bench marks may be the average ratios of the industry or the ratios of the industry leaders or the historic ratios of the firm itself.
- 4. Know the tricks used by accountants:** Since firms tend to manipulate the reported income, should learn about the devices employed by them.
- 5. Read the footnotes: Footnotes sometimes contain valuable information.** They may reveal things that management may try to hide. The more difficult it is to read a footnote, the more information-laden it may be.

- 6. Remember that financial statement analysis is an odd mixture of art and science:** Financial statement analysis cannot be regarded as a simple, structured exercise. It is a process requiring care, thought, common sense, and business judgment—a process for which there are no mechanical substitutes.

### Going Beyond the Numbers

The tools of analysis discussed in this chapter are helpful in making business decisions, evaluating performance, and forecasting future developments. Comprehensive business analysis, however, calls for going beyond the conventional financial measures to consider qualitative factors relevant for evaluating the performance and prospects of a company. The American Association of Individual Investors (AAII) has summarised these factors as follows:

1. *Are the company's revenues tied to one key customer?* If so, the company's performance may decline dramatically if the customer goes elsewhere. On the other hand, if the relationship is firmly entrenched, this might actually stabilise sales.
2. *To what extent are the company's revenues tied to one key product?* Companies that rely on a single product may be more efficient and focused, but a lack of diversification increases risk. If revenues come from several different products, the overall bottom line will be less affected by a drop in the demand for any one product.
3. *To what extent does the company rely on a single supplier?* Depending on a single supplier may lead to unanticipated shortages, which investors and potential creditors should consider.
4. *What percentage of the company's business is generated overseas?* Companies with a large percentage of overseas business are often able to realise higher growth and larger profit margins. However, firms with large overseas operations find that the value of their operations depends in large part on the value of the local currency. Thus, fluctuations in currency markets create additional risks for firms with large overseas operations. Also, the potential stability of the region is important.
5. *Competition.* Generally, increased competition lowers prices and profit margins. In forecasting future performance, it is important to assess both the likely actions of the current competition and the likelihood of new competitors in the future.
6. *Future prospects.* Does the company invest heavily in research and development? If so, its future prospects may depend critically on the success of new products in the pipe line. For example, the market's assessment of a computer company depends on how next year's products are shaping up. Likewise, investors in pharmaceutical companies are interested in knowing whether the company has developed any potential blockbuster drugs that are doing well in the required tests.
7. *Legal and regulatory environment.* Changes in laws and regulations have important implications for many industries. For example, when forecasting the future of tobacco companies, it is crucial to factor in the effects of proposed regulations and pending or likely lawsuits. Likewise, when assessing banks, telecommunications firms, and electric utilities, analysts need to forecast both the extent to which these industries will be regulated in the years ahead, and the ability of individual firms to respond to changes in regulation.

### LESSON ROUND-UP

- **Ratio Analysis:** An important tool of financial statement analysis is ratio analysis. Accounting ratios represent relationship between two accounting numbers.
- **Objective of Ratio Analysis:** The objective of ratio analysis is to provide a deeper analysis of the profitability, liquidity, solvency and activity levels in the business. It is also to identify the problem areas as well as the strong areas of the business.
- **Advantages of Ratio Analysis:** Ratio analysis offers many advantages including enabling financial statement analysis, helping understand efficacy of decisions, simplifying complex figures and establish relationships, being helpful in comparative analysis, identification of problem areas, enables SWOT analysis, and allows various comparisons.
- **Types of Ratios:** There are many types of ratios, viz., liquidity, solvency, activity and profitability ratios. The liquidity ratios include current ratio and acid test ratio. Solvency ratios are calculated to determine the ability of the business to service its debt in the long run instead of in the short run. They include debt equity ratio, total assets to debt ratio etc.
- **Dupont Analysis:** DuPont analysis is a useful technique used to decompose the different drivers of return on equity. An investor can use analysis tools like this to compare the operational efficiency of two similar firms. Managers can use DuPont analysis to identify strengths or weaknesses that should be addressed.
- **Reading and Interpretation of Financial Statement**

### TEST YOURSELF

#### Short Answer Questions

1. What do you mean by Ratio Analysis?
2. What are various types of ratios?
3. What are the ratios used for this purpose?
4. What are liquidity ratios? Discuss the importance of current and liquid ratio.
5. How would you study the Solvency position of the firm?
6. What are various profitability ratios? How are these worked out?
7. The current ratio provides a better measure of overall liquidity only when a firm's inventory cannot easily be converted into cash. If inventory is liquid, the quick ratio is a preferred measure of overall liquidity. Explain.
8. How to read and analyze the Financial Statement?

#### Practical Questions

1. Current Ratio is 3.5 : 1

Working Capital is Rs. 90,000.

Calculate the amount of Current Assets and Current Liabilities.

(Answer: Current Assets Rs. 1,26,000 and Current Liabilities Rs. 36,000)

2. Shine Limited has a current ratio 4.5 : 1 and quick ratio 3 : 1; if the inventory is 36,000, calculate Current Liabilities and Current Assets.

(Answer: Current Assets Rs. 1,08,000, Current Liabilities Rs. 24,000)

3. Current Liabilities of a company are Rs. 75,000. If current ratio is 4:1 and Liquid Ratio is 1 : 1, calculate value of Current Assets, Liquid Assets and Inventory.

(Answer: Current Assets Rs. 3,00,000, Liquid Assets Rs. 75,000 and Inventory Rs. 2,25,000)

4. Handa Ltd. has inventory of Rs. 20,000. Total liquid assets are Rs. 1,00,000 and quick ratio is 2 : 1. Calculate current ratio.

(Answer: Current Ratio 2.4 : 1)

5. Calculate debt-equity ratio from the following information:

Total Assets	Rs. 15,00,000
Current Liabilities	Rs. 6,00,000
Total Debts	Rs. 12,00,000

(Answer: Debt-Equity Ratio 2 : 1.)

6. Calculate Current Ratio if: Inventory is Rs. 6,00,000; Liquid Assets Rs. 24,00,000; Quick Ratio 2 : 1.

(Answer: Current Ratio 2.5 : 1)

7. Compute Inventory Turnover Ratio from the following information:

Revenue from Operations	Rs. 2,00,000
Gross Profit	Rs. 50,000
Inventory at the end	Rs. 60,000
Excess of inventory at the end over inventory in the beginning	Rs. 20,000

(Answer: Inventory Turnover Ratio 3 times)

8. From the following information calculate Gross Profit Ratio, Inventory Turnover Ratio and Trade Receivable Turnover Ratio.

Revenue from Operations	Rs. 3,00,000
Cost of Revenue from Operations	Rs. 2,40,000
Inventory at the end	Rs. 62,000
Gross Profit	Rs. 60,000
Inventory in the beginning	Rs. 58,000
Trade Receivables	Rs. 32,000

(Answer: Gross Profit Ratio 20%; Inventory Turnover Ratio 4 times; Trade Receivables Turnover Ratio 9.375 times)

9. Calculate Inventory Turnover Ratio from the data given below:

Inventory in the beginning of the year	Rs. 10,000
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Inventory at the end of the year	Rs. 5,000
Carriage	Rs. 2,500
Revenue from Operations	Rs. 50,000
Purchases	Rs. 25,000

(Answer: Inventory Turnover Ratio 4.33 times)

10. Calculate Inventory Turnover Ratio if: Inventory in the beginning is Rs. 76,250, Inventory at the end is Rs. 98,500, Sales is Rs. 5,20,000, Sales Return is Rs. 20,000, Purchases is Rs. 3,22,250.

(Answer: Inventory Turnover Ratio 3.43 times)

#### LIST OF FURTHER READINGS

- **Advanced Accounts**  
**Author:** M.C. Shukla, T.S. Grewal & S.C. Gupta  
**Publisher:** S. Chand & Company Ltd.
- **Corporate Accounting**  
**Author:** Dr. S. N. Maheshwari & Dr. Suneel K Maheshwari  
**Publisher:** Vikas Publishing House
- **Fundamentals of Corporate Accounting**  
**Author:** Bhushan Kumar Goyal  
**Publisher:** Taxmann
- **Treatise of Ind AS**  
**Author:** CA. (Dr.) Alok K. Garg  
**Publisher:** Bloomsbury

