that weather money is available to undertake different activities that you want to perform or is required to be performed.

4. **Marginal Costing:** Marginal cost represents the cost of producing one more additional unit of production. In other words, it is the incremental cost of producing the next unit. In business, important decision are taken based on this concept of marginal costing.
5. **Cost Volume Profit Analysis:** Cost Volume Profit analysis is also known as CVP analysis and helps to determine the break-even level of an organisation which is useful for the short-term decision making of the business. CVP analysis basically tries to find out the changes in cost and volume of a business organisation affects its profitability or income level.
6. **Variance Analysis:** Variance analysis is a budgetary control technique which tries to find out the deviations between the budgeted expenditure amount and actual expenditure amount. Higher the amount of this deviation, higher is the variance which the organisation needs control.
7. **Financial Statement Analysis**: Profit and Loss account and Balance Sheet are important financial statements. These statements are analysed for different period. This type of analysis helps the management to know the rate of growth of business concern. This analysis is done through comparative financial statements, common size statements and ratio analysis.
8. **Cost Accounting**: Cost accounting presents cost data in product wise, process wise, department wise, branch wise and the like. These cost data are compared with predetermined one. This comparison of two costs enables the management to decide the reasons responsible for the difference between these costs.
9. **Fund Flow Analysis**: This analysis find out the movement of fund from one period to another. Moreover, this analysis is very useful to know whether the fund is properly used or not in a year when compared to the previous year. The working capital changes and funds from operation are also find out through this analysis.

10. **Cash Flow Analysis**: The movement of cash from one period to another can be find out through this analysis. Besides, the reasons for cash balance and changes between two periods are also find out. It studies the cash from operation and the movement of cash in a period.
11. **Standard Costing**: Standard costing is predetermined cost. It provides a yard stick for measuring actual performance. It is used to find the reasons for the deviations if any
12. **Budgetary Control**: Under Budgetary control techniques, future financial needs are estimated and arranged according to an orderly basis. It is used to control the financial performances of business concern. Business operations are directed in a desired direction.
13. **Ratio Analysis**: It is used to management in the discharge of its basic functions of forecasting, planning, coordination, communication and control. It paves the way for effective control of business operations by undertaking an appraisal of both the physical and monetary targets.

8.8 THE BALANCED SCORECARD

David Norton and Robert S Kaplan introduced the concept of Balanced Scorecard in a 1992 Harvard Business Review article. The main objective of developing the balanced scorecard was to measure the performance of an organisation relating financial measures and key non-financial measures with respect to the customers or clients, internal processes, and organisational learning and growth needs. In other words, the balanced scorecard provides a systematic approach to measure the organisational performance considering financial, customers, internal processes, learning and growth in a summarised 'scorecard'. This scorecard is called Balanced Scorecard and is used to monitor the overall organisational performance. Then the Balanced Scorecard tries to find out important links amongst organisational financial, customers, internal processes, learning and growth. After proper identification and establishment of the relationships, Balanced Scorecard helps to translate strategic vision into specific plan of actions which will help the organisation to achieve its goal. The Balanced Scorecard approach basically helps an organisation in

executing strategic initiatives and provides a guiding force for the achievement of strategic objectives. The approach of Balanced Scorecard is flexible in nature because of which it is widely practiced worldwide. Let us now look at the Balanced Scorecard as developed by Robert S Kaplan and David P Norton which is given below:-

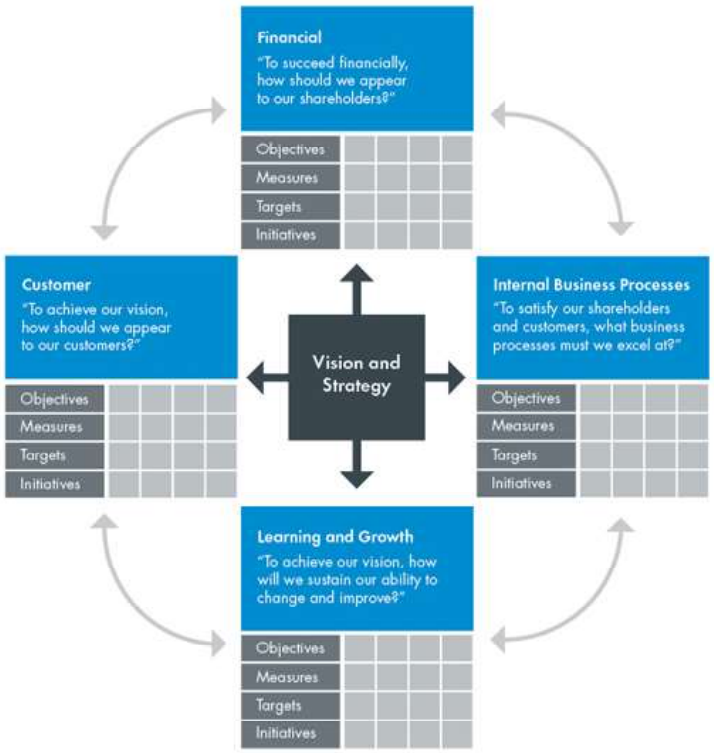


Figure 8.2: Adapted from Robert S Kaplan and David P Norton, *Using the Balanced Scorecard as a strategic management system*, Harvard Business Review (January-February 1996)



CHECK YOUR PROGRESS

Q3: What is the objective of conducting Cost Volume Profit analysis?

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Q4: Distinguish between budgeting and marginal costing.

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8.9 MERITS AND DEMERITS OF MANAGEMENT ACCOUNTING

Merits of Management Accounting

The merits of management accounting may be briefly discussed as below:-

(a) Management accounting helps to perform each of the five managerial functions viz., planning, organising staffing, leading and controlling more effectively and profitably by providing crucial information to the different levels of management as required.

(b) In order to provide crucial information to management, management accounting prepares suitable formats for collecting relevant information from different levels of staff and management. This function of management accounting is beyond the scope of financial accounting as well as cost accounting. Thus we see that management accounting renders a valuable service for the smooth and efficient performance of management functions.

(c) Management accounting basically helps in decision-making process of the business. For example, if a Board of Management finds specific problem and interested to know the possible alternative solutions to the problem, then management accounting helps to identify the alternative solutions to the problem.

(d) Management accounting not only helps management to identify the possible alternative solutions but also conducts the cost benefit analysis of each of the possible alternative solutions of the problem. After finding the cost benefit analysis, management accounting helps management to arrange the alternative solutions in descending order on the basis of net benefits. This really helps management to take the right decision in a scientific manner and finally assist management to take a rational decision under various problematic situations.

(e) Management accounting helps the management team in the organisation exclusively as the report of the management accounting is circulated only among the managerial personnel.

Demerits of Management Accounting

Management accounting is a relatively new branch of accounting and it is in the development stage. As we have discussed above that management accounting is very useful and exclusively helps management in taking right decision but it suffers from the following demerits:-

(a) Complex Procedure: As there is no specific structure of conducting management accounting like financial accounting and cost accounting where the activities are well structured and outcomes are also well defined. For example, the outcomes of financial accounting are Trial Balance, Trading Account, Cash Account, Profit and Loss Statement, Balance Sheet, Fund Flow Statement, Cash Flow Statement. The outcomes of cost accounting are Cost Sheet etc. But in case of management accounting there are no such specific outcomes so there is no well-defined procedure which makes the performance of the task of management accounting very complex.

(b) Lack of Objectivity: The report of management accounting comprises mostly the opinions and feedbacks which are subjective in nature. Some information may suffer from personal bias and the interpretation of the information supplied to management accounting may be biased.

(c) Regressive in Nature: Management accounting basically relies on the historical information of the organisation. But the interpretation of this information is used for taking future decisions. For some events or usual circumstances this may fetch useful result but for some other situations the interpretation of the historical information may not work.

(d) Costly Exercise: Installation of management accounting system in an organisation requires huge investment in Human Resource and Information Technology. The organisation would require good number of management personnel to conduct this exercise and lose lots of time of their management executives. Moreover, there is a huge cost of installation of management information system which needs to be installed connecting all the management functions.

8.10 DISTINCTIONS BETWEEN MANAGEMENT ACCOUNTING AND FINANCIAL ACCOUNTING

Management accounting is different from financial accounting in the following ways:-

(a) Financial accounting records past transactions which have already taken place whereas management accounting is futuristic in nature and is concerned about what is going to happen.

(b) Financial accounting prepares all its reports for the usage of external parties whereas the management accounting report is prepared only for the internal managerial personnel.

(c) Financial accounting reports must be completed at the end of the accounting period usually once in a year whereas management accounting reports are very frequently prepared depending upon the requirement of the management which may be hourly, daily, weekly, fortnightly, monthly, quarterly, half-yearly, annually or for a specific period of time.

(d) Financial accounting reports are prepared based on Double Entry System where as for preparing management accounting report Double Entry System is not followed.

(e) Financial accounting reports are prepared as specified by the Provisions of Companies Act, 1956 whereas there is no specific guidelines for the preparation of management accounting reports which are basically prepared based on the requirements of the management.

(f) Financial accounting reports comprise of Trial Balance, Trading Account, Cash Account, Profit and Loss Statement, Balance Sheet, Fund Flow Statement, Cash Flow Statement etc. as per the Provisions of Companies Act 1956 whereas for preparing management accounting reports no such rigidity is found.

(g) Financial accounting reports are mandatory and statutory requirement of the business under the provisions of Companies Act 1956, [section 210(1), 216, 217(1), 209(1)] whereas management accounting reports are not mandatory.

(h) Generally Accepted Accounting Principles (GAAPs) and practices controls financial accounting reports which needs to follow Double Entry Principle whereas GAAPs do not govern the management accounting reports.



CHECK YOUR PROGRESS

Q5: What is the objective of a cost management system?

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Q6: What are the benefits of Management Accounting?

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8.11 COST MANAGEMENT SYSTEM

A cost management system refers to a set of systematic procedures established for the purpose of planning and controlling an organization's cost-generating activities in order to serve short term objectives and long term strategies. The two most important problem of any business organisation is to attain profitability in the short run and to maintain its competitive position in market in the long run. An efficient cost management system provides input for the management accounting which ultimately assists the management personnel to overcome the two above mentioned problems. An effective cost management system not only provides information for all the functional areas but also it helps the organisation to improve quality, content, relevance, and timing of cost information that managers use for short-term and long-term decision making. The goals of a cost management system would be:-

(a) develop reasonably accurate product costs, especially through the use of cost drivers (activities that have direct cause-and-effect relationships with costs);

(b) assess product/service life-cycle performance;
(c) improve understanding of processes and activities;
(d) control costs;
(e) measure performance; and
(f) allow the pursuit of organizational strategies.

Cost management is employed by many businesses as an integral part of business management. Cost management is also considered a form of management accounting that helps to identify future expenditures in a business to reduce budget overages.

When cost management is applied to a specific project, the expected costs in the business are analyzed in the beginning phase of the planning period. The project manager then approves the predicted expenses in purchasing the materials required for the project.

The costs and expenses are recorded and monitored during the project execution period to ensure that the cost is in line with the actual cost management plan. Once the project is complete, the actual costs are compared with the predicted costs, which will help in predicting future expenses.

Advantages of cost management

- It helps in controlling the project specific cost, in turn also the overall business cost.
- One can predict the future expenses and costs and accordingly work towards the expected revenues.
- Predefined costs can be maintained as records for the business.
- It helps in taking those actions that are necessary to assure that the resources and business operations aim at attaining the chalked objectives and goals.
- It helps in analysing the long term trends of the business.
- The actual cost incurred can be compared to the budgeted to see if any component of the business is spending more than expected.
- It helps in analysing the business positioning in terms of making an acquisition factoring the cost component involved.



8.12 LET US SUM UP

In this unit we have discussed the concept of management accounting.

- Management accounting basically deals with accounting information, internal reporting and efficiency of the management.
- It is concerned with the furnishing of relevant data to management for planning, organising, and controlling which will ultimately help in better decision making.
- The main objective of management accounting is to use the accounting information for higher efficiency and productivity of the management.
- The different tools of management accounting like budgeting, marginal costing etc.
- Moreover the concepts of the Balanced Scorecard, Cost Management System and Value Added Concept are also discussed.



8.13 FURTHER READING

1. Anthony, R. N. and V. Govindarajan, (1997), "*Management Control System*, 9th Ed.," McGraw-Hill Professional Publishing, Case 11-1.
2. Ishikawa, Kaoru (1985) *'What Is Total Quality Control? The Japanese Way*.' Englewood Cliffs, NJ: Prentice-Hall, Kaplan, R. S., D. P. Norton, 'The Balanced Scorecard - Measures that Drive Performance', Harvard Business Review, January - February 1992.
3. Kaplan, R. S. and D. P. Norton (1996), *'Using the Balanced Scorecard as a Strategic Management System*', Harvard Business Review, January – February.
4. Kaplan, R. S. and D. P. Norton (2001), *'The Strategy Focused Organization*', Harvard Business School Press, 2001.
5. Munro-Faure and L., M. Munro-Faure(1992), *'Implementing Total Quality Management*', The Free Press,.

6. Schneiderman, A. *'The first Balanced Scorecard: Analog Devices*, 1986-1988', Journal of Cost Management, September/October 2001



8.14 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q1: Management Accounting is the application of appropriate techniques and concepts in processing historical and projected economic data of an entity to assist management in establishing plans for the achievement of reasonable economic objectives. Management accounting is concerned with accounting information which is useful to management.

Ans to Q2: The main role of the management accounting is to serve the management by preparing different reports which help management to take a number of decisions for different levels of management.

Ans to Q3: Cost Volume Profit analysis is also known as CVP analysis and helps to determine the break-even level of an organisation which is useful for the short-term decision making of the business. CVP analysis basically tries to find out the changes in cost and volume of a business organisation affects its profitability or income level.

Ans to Q4: Budgeting is a process which tries to balance future income and expenditure. In other words, a budget is a statement of estimated income and expenditure that may occur in future. On the other hand, Marginal cost represents the cost of producing one more additional unit of production. In other words, it is the incremental cost of producing the next unit. In business, important decision are taken based on this concept of marginal costing.

Ans to Q5: A cost management system refers to a set of systematic procedures established for the purpose of planning and

controlling an organization's cost-generating activities in order to serve short term objectives and long term strategies.

Ans to Q6: The benefits of management accounting may be briefly discussed as below:-

(a) Management accounting helps to perform each of the five managerial functions viz., planning, organising staffing, leading and controlling

(b) In order to provide crucial information to management, management accounting prepares suitable formats for collecting relevant information from different levels of staff and management.

(c) Management accounting helps in decision-making process of the business.

(d) Management accounting not only helps management to identify the possible alternative solutions but also conducts the cost benefit analysis of each of the possible alternative solutions of the problem.

(e) Management accounting helps the management team in the organisation exclusively as the report of the management accounting is circulated only among the managerial personnel.



8.15 MODEL QUESTIONS

(a) What are the merits and demerits of a management accounting system?

(b) Explain briefly some tools of management accounting that are usually used by the corporate world.

(c) What is Balanced Scorecard? Explain briefly the concept and its utility for business organisations.

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UNIT 9: RATIO ANALYSIS

UNIT STRUCTURE

9.1 Learning Objectives

9.2 Introduction

9.3 Ratio Analysis : Its meaning

9.4 Steps in Ratio Analysis

9.5 Classification of Ratios

- 9.5.1 Liquidity Ratios
- 9.5.2 Financial Leverage Ratios
- 9.5.3 Turnover Ratios
- 9.5.4 Profitability Ratios
- 9.5.5 Valuation Ratios

9.6 Practical Problems

9.7 Advantages of Ratio Analysis

9.8 Limitation of Ratio analysis

9.9 Let us Sum Up

9.10 Further Reading

9.11 Answer To Check Your Progress

9.12 Model Questions

9.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:-

- explain the meaning of ratio analysis and calssify the ratios
- outline the various financial ratios
- discuss the advantages and limitations of ratio analysis

9.2 INTRODUCTION

In this unit, we are going to discuss about ratio analysis, the basic objective of ratio analysis is to present to the potential user brief statements which describes the status of the company. Ratios involve establishing a financial relationship between components of financial statement. We will explain about different types of ratios in this unit.

Financial ratios over different time periods need to be calculated for comparison, because of this we require time series analysis which gives an indication of the direction of change and reflects whether the company's financial performance has improved, deteriorated or remained constant over time. After going through this unit you will be able to analyse financial conditions of different companies.

9.3 RATIO ANALYSIS: ITS MEANING

Sometimes information or figures given in the balance sheet and profit and loss account are not enough for proper interpretation regarding the financial performance of the firm. These information or figures need to be worked out to establish proper relationship between the items of balance sheet and the profit and loss account. Ratio analysis is a powerful tool of financial analysis. A ratio is defined as "the indicated quotient of two mathematical expressions" and as "the relationship between two or more things".

Ratio analysis helps to understand the performance of the business on different perspectives. Information from the financial statements is the inputs for the ratio analysis. Ratio analysis helps management to know the performance of their company on various perspectives like profitability scenario, status of financial assets and liability, business turnover performances, financial leverage positions of the company and so on. Ratio analysis also helps investors to assess the performance of their investments by calculating valuation ratios. Thus we see that ratio analysis is a vital tool to assess the overall performance of a business organisation by calculating various financial ratios taking input from financial statements.

In financial analysis, a ratio is used as a benchmark for evaluating the financial position and performance of a firm. An accounting figure conveys meaning only when it is related to some other relevant information. For example, Rs.10 crore net profit may be considered impressive but it has to be related to the investment to find whether it is good or bad performance. Ratios help to summarize large quantities of financial data and to make qualitative judgment about the firm's financial performance.

As ratio is used as a benchmark, a single ratio in itself does not indicate favourable or unfavourable condition. It needs to be compared with some standard. Standard of comparison may consist of the followings:

a. Past ratio i.e. ratios calculated from the past financial statements of the same firm.

b. Competitors' ratios i.e. ratios of some selected firms, especially the most progressive and successful competitor at the same point of time.

c. Industry ratios, i.e. ratios of the industry to which the firm belongs and

d. Projected ratios i.e. ratios developed using the projected financial statements of the same firm.

9.4 STEPS IN RATIO ANALYSIS

Ratio analysis is used to find out the financial health of a business organization. Ratio analysis establishes mathematical relationship between two variables and is expressed in the form of a mathematical equation. Financial analysts calculate different ratios to assess the overall financial performance of a company. There are basically three steps involved in order to perform ratio analyses which are briefly discussed below:-

Step 1: The first step of performing ratio analysis is to collect relevant information which is required to compute the particular financial ratios under consideration. For example, if one wants to know the liquidity position of a firm, then one has to find the current ratio. Then the first step is to identify the current asset and current liability from the balance sheet of the organization for a particular period and then collect the figures for the current asset and current liability for the required period. So, the numerator and denominator for the current ratio are ready.

Step 2: The second step is to calculate the ratio with the information collected from the financial statements for the particular firm. In other words, in this step a quantitative figure is determined based on the established relationship from the values collected from the financial statements. For example, in order to calculate the current ratio, we perform a mathematical operation by dividing current assets by current liabilities.

Step 3: The final step is all about interpretation and drawing of inferences from the computed quantitative results of the ratios found in step 2. Interpretation is basically done comparing its current year's performance with that of its previous years in order to assess its performance. Moreover, the ratio of a particular firm is also used to compare with its competitors to assess the performance of a firm. Ratio of a firm is also compared with that of the industry averages of that sector to which the firms belongs.

9.5 CLASSIFICATION OF RATIOS

There are different types of financial ratios calculated from the financial statements of business organisations. The ratios are basically classified into the following five categories:-

(i) ***Liquidity ratios***: Liquidity ratios show the short-term solvency of an organisation or its ability to meet immediate future financial obligations.

(ii) ***Financial leverage ratios***: Financial leverage ratios show the stake of the owners in the business in relation to outside borrowings or long-term solvency of a firm.

(iii) ***Turnover ratios***: Turnover ratios show efficiency of management of different types of assets acquired by the organisation. These ratios are also referred to as activity ratios.

(iv) ***Profitability ratios***: Profitability ratios are the most important financial ratios which show the current status of profitability of a firm.

(v) ***Valuation ratios***: Valuation ratios are very important from the investment point of view which measures valuation of the equity stock of a firm in the capital market.

Let us briefly discuss these ratios below –

9.5.1 Liquidity Ratios

Liquidity refers to the ability of a firm to meet its obligations in the short run, usually one year. Liquidity is essential to conduct business activity, particularly during shut down or strike or recession. If liquidity

is insufficient to cushion such losses, serious financial difficulty may arise. A company should ensure that it does not suffer from lack of liquidity at any time, and also that it does not have excess liquidity as it will affect profitability. If the company fails to meet its short term obligations due to lack of sufficient liquidity, then it will result in poor credit worthiness and loss of creditors' confidence.

Liquidity refers to the ease with an asset can be converted into cash and measures the ability of a firm to meet its obligation in the short-term, usually one year. Higher the current ratio, higher is the short-term solvency of the firm. The liquidity ratios are (a) Current ratio (b) Acid test ratio (c) Cash ratio and (d) Net Working Capital ratio.

(a) Current Ratio: The Current ratio is calculated by dividing the current assets of a firm by its current liabilities for the required period which is given below:-

$$\text{Current Ratio} = \frac{\textit{Current Asset}}{\textit{Current Liability}}$$

Current asset refers to cash, current investments, bank, sundry debtors, bills receivable, loans and advances, and short-term marketable securities. Inventories are not included under current assets as it cannot be converted into cash immediately at the purchase price.

Current liabilities refer all those liabilities that are due in the next one year and usually include creditors, secured and unsecured loans that are due in the next one year, bills payable, outstanding expenses, short-term advances, income tax payable, dividends payable, etc. Usually a current ratio of 2:1 is considered to be satisfactory.

(b) Acid Test Ratio : The second popular liquidity ratio is Acid Test ratio which is a stringent measure of liquidity of a firm and measured by the following formula –

$$\text{Acid Test ratio} \quad \frac{\text{Quick Asset}}{\textit{Current Liability}}$$

Quick assets refer to the current assets which are highly liquid excluding inventories as it cannot be immediately converted into cash. Prepaid expenses are also excluded from the current assets because it cannot be converted into cash. Usually an acid-test ratio of 1:1 is considered to be satisfactory.

(c) Cash Ratio: It gives the amount of cash available in terms of liquidity. The ratio is calculated by dividing cash and marketable securities by current liabilities. This ratio measures the amount of cash and near cash items the company has in terms of its current liabilities.

$$\text{Cash Ratio} = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

(d) Net Working Capital Ratio: The difference between current assets and current liabilities excluding short term bank borrowing is called net working capital. Net working capital to total assets measures the company's potential reservoir of funds.

$$\text{Net Working Capital Ratio} = \frac{\text{Net Working Capital}}{\text{Total Assets}}$$

9.5.2 Financial Leverage Ratios

Financial leverage measures the use of debt finance in the capital structure of a firm. Use of debt finance refers to the use of loans from financial institutions or banks to support the capital of the business. The two types of finances available for any firm are debt finance and equity finance. Leverage ratios help management to determine the level of risk associated with the business arising from the use of debt finance in the capital structure of the firm. These are also known as debt ratios or equity ratios. The important types of leverage ratios are (a) Debt Equity Ratio and (b) Interest Coverage Ratio (c) Debt Ratio which are briefly discussed below.

(a) Debt-Equity Ratio refers to the relationship between borrower's fund and owner's capital in a business. Debt-to-Equity ratio measures the relationship between the outsider's funds (as provided

by financial institutions) and equities or shareholders' funds. Debt equity ratio is calculated as follows:-

$$\text{Debt Equity Ratio} = \frac{Total\ Debts}{Total\ Equities}$$

In the above equation, total debts refers to all short-term and long-term debts such as debentures, bonds, mortgages, bills etc. Total equity refers to the long-term funds which includes equity share capital, preference share capital, capital reserves, revenue reserves, and reserves representing accumulated profits, reserves for contingencies, sinking funds, etc. Usually, financial analysts interpret lower the debt equity ratio as the higher degree of protection enjoyed by the creditors.

(b) Interest Coverage Ratio is commonly used by the lenders to evaluate firms' debt paying capacity to the financial institutions from where loan is availed for the business. A high interest coverage ratio means that a firm can easily meet its interest burden obligations even if profit before interest and taxes decline. Again, low interest coverage ratio signals a financial embarrassment if PBIT declines. Interest coverage ratio is calculated as follows:-

$$\text{Interest Coverage Ratio} = \frac{\text{Profit before Interest \& } Taxes\ (PBIT)}{Interest}$$

(c) Debt Ratio: This ratio is calculated by dividing total debt (TD) by capital employed (CE). Total debt includes short and long-term borrowings from financial institutions, debentures/bonds, bank borrowings, public deposits and any other interest-bearing loan. Capital employed includes Net fixed assets (NFA) and net current assets (NCA). Net current assets are current assets (CA) less current liabilities (CL) excluding interest-bearing short-term debt for working capital.

$$\text{Debt Ratio} = \frac{\text{Total Debt (TD)}}{\text{Capital employed (CE)}}$$

The debt-equity and debt ratio show how excellently debt financing has been used in the business. A high ratio for both the case means

that claims of creditors are greater than those of owners. A high level of debt introduces inflexibility in the firm's operations due to the interferences from creditors. But a low debt-equity ratio implies a greater claim of owners than creditors. From the point of view of creditors, it represents a satisfactory situation since a high proportion of equity provides a larger margin of safety for them. Together with the level of indebtedness, the company's capacity to bear interest needs to be measured.

9.5.3 Turnover Ratios

Activity or turnover ratios measure the speed with which accounts are converted into sales or cash. These ratios are employed to evaluate the efficiency with which a company manages and utilises its assets. These ratios involve a relationship between sales and assets. Turnover ratios are also known as activity ratios or inventory turnover ratio. Turnover ratios basically assess the efficiency of the usage of the assets of a firm. The common Activity or Turnover ratios are discussed below:

(a) Inventory Turn over Ratio: Turnover ratios are important as it shows the number of time the inventory has been turned over during a particular period of time in an organisation. Therefore the turnover ratios assess the overall operational efficiency of an organization's inventory management system during a particular period of time. Higher is the turnover ratio higher may be the sales of a company during a particular period. The inventory turnover ratio is calculated as follows:-

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

If values for the cost of goods sold are not available, then Net Sales figure is used in place of cost of goods sold. If average inventory figure is not available, then the close inventory or the opening inventory is used to measure the average inventory.

A high inventory turnover ratio reveals efficient management of inventory because the inventories are sold more frequently and thereby the amount of money required to finance the inventory is also very less. Again, a low inventory turnover ratio reveals an inefficient management of the inventories of the firm. If the inventory turnover ratio is low that means the inventory of the firm is moving slowly and thereby this indicates unnecessary blockage of capital which would have used in the business. This blocked capital in inventories would have been invested in the business and might have fetched extra revenue for the firm. Thus we see that, the inventory turnover ratio is very important and sends as a signal of profitability of a firm. Usually, a high inventory turnover ratio indicates extra profit whereas a low inventory turnover ratio indicates less profit.

(b) Debtors (Accounts Receivable) Turnover*:* A company sells goods for cash and credit. When the company extends credits to its customers, debtors (accounts receivables) are created in the company's accounts. Debtors are convertible into cash over a short period, hence are included in current assets. This ratio has to be compared together with the other liquidity ratios to assess the liquidity position of the company. It is calculated by dividing credit sales by accounts receivables or debtors amount.

$$\text{Debtors turnover} = \frac{\text{Credit sales}}{\text{Debtors}}$$

This turnover ratio indicates the number of times receivables are turnover each year. The higher the value of this ratio, the more efficient is the management of credit.

(c) Total Asset Turnover Ratio: This ratio indicates the efficiency with which the company uses its assets to generate sales. Generally, the higher a company's total assets turnover, the more efficiently its assets have been used. It is calculated by dividing sales by total assets. This measure is probably of greater interest

to management as it indicates whether the company's operations have been financially efficient.

$$\text{Total assetsturnover} = \frac{\text{Sales}}{\text{Total assets}}$$

Some analyst exclude intangible assets like goodwill, patents etc, while computing total assets turnover. Similarly, fictitious assets, accumulated losses or deferred expenditures may also be excluded for calculating total asset turnover ratio.

(d) Fixed Asset Turnover Ratio: Sometimes, analyst wants to measure the efficiency only with respect to fixed assets. This ratio measures sales per rupee of investment in fixed assets. A high ratio indicates a high degree of efficiency in asset utilisation and a low ratio reflects inefficient use of assets. However, while interpreting this ratio, one has to examine the quality of the asset, as old and substantially depreciated fixed assets would tend to show a high turnover ratio.

$$\text{Fixed assets turnover} = \frac{\text{Sales}}{\text{Fixed Assets}}$$

9.5.4 Profitability Ratios

Profitability ratios are the most important as it finally finds whether the company has incurred profit or loss during a particular period of time. In other words, profitability ratios determine the results of all business operations or overall performance of a firm during a period of time. The popular ratios of the first group are the **Gross profit margin**, **Net profit margin** and **Operating ratio**. The common ratios for the second group are **Return on Investment**, **Return on Equity**, **Earnings per share** and **Price-Earnings Ratio**.

(a) **Gross Profit Ratio** is the ratio of gross profit to net sales. This ratio is expressed in percentage and shows the relationship between gross profit and sales. Gross profit is the difference between net sales and cost of goods sold. For a trading type of business, cost of goods sold would be equal to opening stock plus

purchases plus all direct expenses relating to purchases minus closing stock. For a manufacturing type of business, it would be equal to the sum of the cost of raw materials, wages, direct expenses and all manufacturing expenses. Usually, the expenses charged to profit and loss account or operating expenses are excluded from the measurement of cost of goods sold. The gross profit ratios is calculated by the following formula:-

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

Gross profit ratio implies the overall efficiency of a firm's operations. Higher the gross profit better it is as the gross profit is calculated by deducting cost of goods sold from net sales. The gross profit earned should be sufficient to recover all operating expenses and to build up reserves after paying all fixed interest charges and dividends. An increase in the Gross Profit ratio indicates that the sales have gone up without much increase in the overall costs. Similarly a decrease in the Gross Profit ratio indicates that the sales have declined without an increase in the overall costs of the firm.

(b) **Net Profit Margin:** Net profit is obtained when operating expenses, interest and taxes are subtracted from the gross profit. This ratio establishes a relationship between net profit and sales and indicates management's efficiency in manufacturing, administering and selling the products. This ratio is measured by dividing profit after tax by sales.

$$\text{Net Profit Margin} = \frac{\text{Profit after tax}}{\text{Sales}}$$

A company with a high net profit can survive in the face of falling selling prices, rising costs of production or declining demand for the product but it would not be possible for a low net profit margin company to withstand these adversities.

(c) **Operating Expense Ratio**: The operating expense ratio explains the changes in the profit margin ratio. This ratio is computed by dividing operating expenses i.e. cost of goods sold plus selling

expenses and general and administrative expenses (excluding interest) by sales.

$$\text{Operating expense ratio} = \frac{\text{Operating expense}}{\text{Sales}}$$

A high operating expenses ratio is unfavourable to a company as it means high cost of goods sold or high general and selling expenses. A high operating ratio will leave a small amount of gross profit to pay interest, dividends etc. A company desires a low operating ratio as it is a yardstick of operating efficiency.

(d) **Return on Investment**: The Return on Investment also called as Return on Asset, measures the company's overall effectiveness in generating profits with its available assets. The higher the company's return on total investment, the better is the profitability. It is calculated by dividing profit after tax by total asset.

$$\text{Return on Investment} = \frac{\text{Profit after tax}}{\text{Total assets}}$$

(e) **Return on Equity Capital (ROEC) Ratio:** Return on Equity Capital (ROEC) Ratio assesses the performance of a firm from the equity shareholders perspective on the basis of return on equity capital of the company. Return on equity capital measures the relationship between profits of a company and its equity share capital which is calculated as follows:-

$$\text{Return on Equity Capital} = \frac{\text{Net Profit after Tax} - \text{Preference Dividend}}{\text{Equity Share Capital}}$$

Equity share capital represents the total called-up value of equity shares of a company. The preference dividend and taxes are excluded from the gross profit in order to arrive at net profits after tax.

9.5.5 Valuation Ratios

Valuation ratios determine how the equity stock of a company is valued in the stock market. So, valuation ratios are important basically for the stock market investors. This valuation ratio helps

investors to take a rational investment decision before investing in the stock market as it represents a comprehensive evaluation of the overall financial health and performance of a firm. There are two most important valuation ratios viz., (a) Price earnings (P/E) ratio and (b) Earnings per share (EPS) ratio, mostly used by the investors as well as it is also used by the management of the particular firm which is briefly discussed below:

(a) Earnings Per Share (EPS) Ratio is another important indicator of earning or profitability especially for the investors in a company. EPS ratio measures net return on equity capital invested in a company and is calculated by dividing the net profit after taxes minus preference dividend by the total number of equity shares. Higher the EPS ratio of a company, higher would be the profitability. The formula of earnings per share is as follows:-

$$\text{Earning per Share (EPS) Ration} = \frac{\text{Net Profit After Tax - Preference Divident}}{\text{No. of Equity Shares}}$$

(b) Price Earnings Ratio (P/E) : It is an excellent tool for the investors which help them to take buy or sell decision of equity share in the stock at a specific market price. This ratio is popular and largely used by the investors as it indicates whether a stock is undervalued or overvalued. Usually, the higher the price earnings ratio, the better performance and prospects of the company. A decrease in the P/E ratio of a company indicates that the company is not performing well and the management of the company must find out the reason of this decreasing P/E ratio. P/E ratio is calculated by the following formula:

$$\text{Price Earning Ration} = \frac{\text{Market Price Per Equity Share}}{\text{Earning Per Share}}$$

The P/E ratio is more meaningful when analyzed with the P/E ratio of similar companies of same size. For example, if the earning per share of BPDL limited is 20, its market price Rs.200 and earnings ratio of some other companies belonging to the same sector is 15, it means that the market value of a share of BPDL Ltd. should be

Rs.300 (i.e., 15 × 20). The share of BPDL Ltd. is undervalued in the market by Rs.100 (300 – 200). Similarly, if the price earnings ratio of some other companies belonging to the same sector is only 8, the value of the share of BPDL Ltd. should have been Rs.160 (i.e., 8 × 20), thus the share would be overvalued by Rs.40 (200 – 160). This is the usefulness of the P/E ratio to the investors for determining the true economic value of shares in the stock market.



CHECK YOUR PROGRESS

Q1: State the diferent types of financial leverage ratios.

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Q2: What is the purpose of liquidity ratios?

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Q3: What does P/E ratio indicate ?

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Q4: State true or false for the following statements:

(i) Gross Profit Ratio is the ratio of gross profit to net sales.

(ii) Liquidity means the ease with a liability can be converted into T-Bill.

(iii) Valuation ratios are important basically for the stock market investors.

9.6 PRACTICAL PROBLEMS



Exercise: 9.1

From the following financial information of Falcon Ltd., find current ratio and acid-test ratio. The given assets are matured within one year and liabilities need to be repaid within the next one year.

Cash	Rs. 40,000
Debtors	Rs. 210,000
Inventory	Rs. 400,000
Bills payable	Rs. 35,000
Creditors	Rs. 75,000
Accrued expenses	Rs. 25,000
Tax payable	Rs. 20,000

Solution

From the available financial information, we must first calculate current assets, current liabilities, and quick assets.

Current Assets = 40,000 + 210,000 + 400,000

= 650,000

Current Liabilities = 35,000 + 175,000 + 25,000 + 20,000

= 155,000

The current ratio of the company Falcon Ltd. is calculated below:-

$$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liability}}$$

$$= \frac{650{,}000}{155{,}000}$$

= 4.19 : 1

Thus, we can interpret that the liquidity position of Falcon Ltd. is very good and the firm is able to meet all its current liabilities. A current ratio of 4.19 : 1 indicates that the firm has approximately four times of its current assets compared to its current liabilities.

Let us now calculate the acid-test ratio of Falcon Ltd. from the above financial information.

To calculate acid-test ratio, at first we need to calculate the quick asset.

Quick Assets = Current Assets – Inventories

= 650,000 – 400,000

= 250,000

Therefore, $$\text{Acid Test ratio} = \frac{\text{Quick Asset}}{\text{Current Liability}}$$

$$= \frac{250,000}{155,000}$$

= 1.61 : 1

Thus, we can interpret from the acid-test that the liquidity position of Falcon Ltd. is excellent as the firm is able to meet all its current liabilities immediately without even selling its inventories.



Exercise: 9.2

From the following financial figures of GHL Ltd., calculate debt to equity ratio.

Equity share capital	5,00,000
Capital reserve	2,00,000
Profit & Loss Account	50,000
4% debentures	2,00,000
Sundry creditors	70,000
Bills payable	10,000
Provision for taxation	40,000
Outstanding creditors	30,000

Solution

To calculate the debt equity ratio, let us first find out the total debt and total equity of GHL Ltd.

Total Equity = Equity share capital + Capital reserve + Profit & Loss Account

= 500,000 + 200,000 + 50,000

= 750,000

Total Debt = 4% debentures + Sundry creditors + Bills payable + Provision for taxation + Outstanding creditors

= 200,000 + 70,000 + 10,000 + 40,000 +30,000

= 350,000

Therefore, debt equity ratio is calculated by the following formula:-

$$\text{Debt Equity Ratio} = \frac{\text{Total Debts}}{\text{Total Equity}}$$

$$= \frac{350,000}{750,000}$$

= 0.46 or 46 : 100

Thus we can interpret that for every forty six rupees worth of the creditors investment the shareholders have invested hundred rupees. Debt equity ratio shows the proportionate claims of owners and the outsiders against the firms' assets. In case of liquidation of the firm, the total assets of the firm must be divided according to the debt equity ratio.



Exercise: 9.3

Suppose the PBIT of Falcon Ltd. is Rs. 2000,000 and the total interest payable is Rs.400,000 during a given financial year. Then the interest coverage ratio is calculated as follows:-

Solution:

$$\text{Interest Coverage Ratio} = \frac{\text{Profit before Interest \& Taxes (PBIT)}}{\text{Interest}}$$

$$= \frac{\text{Rs. } 2000,000}{\text{Rs. } 400,000}$$

= 5.00

Thus we see that interest coverage ratio is high. So, we can conclude that the company can easily meet its interest burden even if earnings before interest and taxes suffer a considerable decline.

Exercise: 9.4

For TCPIL Ltd., the cost of goods sold for the financial year 2015-2016 is Rs.5,00,000. The opening stock is Rs 3,00,000 and the closing stock is Rs.75,000. What is the inventory turnover ratio of TCPIL Ltd.?

Solution:

In order to find out inventory turnover ratio, let us first calculate the average inventory

$$\text{Average Inventory} = \frac{(\text{Opening Inventory} + \text{Closing Inventory})}{2}$$

$$= \frac{(3,00,000 + 75,000)}{2}$$

$$= 1,87,500$$

Therefore,

$$\text{Inventory Turnover Ratio (ITR)} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

$$= \frac{5,00,000}{1,87,500}$$

$$= 2.67$$

Thus we may conclude that an average one rupee invested in inventories will become nearly three (2.67) times in sales and the firm is managing its inventory in an efficient way.

Exercise: 9.5

The following financial information of APDCIL Ltd. is available. Find the gross profit ratio (GP ratio) of the company.

Particulars	Amount (Rs.)
Gross sales	500,000
Sales returns	80,000
Opening stock	100,000
Purchases	295,000
Purchases returns	35,000
Closing stock	22,500

Solution:

Let us calculate the Gross Profit first.

Now, we can compute the gross profit ratio as follows:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

$$= \frac{82,500}{420,000}$$

$$= 0.1964$$

The GP ratio is 19.64%. We may conclude that the company may reduce the selling price of its products by 19.64%.



Exercise: 9.6

During the financial year 2015-2016, DPTL Ltd. generated a total sales of Rs.3,40,000; Sales returns is Rs.40,000; cost of goods sold is Rs.2,50,000. You task is to calculate the gross profit ratio of the company.

Solution:

Considering the given information of the company, the gross profit is calculated as follows:-

Gross Profit = Net Sales – Cost of Goods Sold

= (Total Sales – Sales Return) – Cost of Goods Sold

= [(3,40,000 – 40,000) – 250,000]

= 50,000

Now, the gross profit ratio is calculated as follows:-

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

= (50,000 / 340,000) × 100

= 14.7%

The GP ratio is 14.7%. We may conclude that the company may reduce the selling price of its products by 14.7%.



Exercise: 9.7

Equity share capital of GCPTIL Ltd. is Rs.10,00,000. The company issued 15% preference share capital of Rs.4,00,000. The corporate rate of taxation was 30% of net profit and the net profit before tax was Rs.4,50,000 during the financial year 2015-2016. Calculate return on equity share capital of the company.

Solution:

$$\text{Return on Equity Capital} = \frac{\text{Net Profit after Tax - Preference Dividend}}{\text{Equity Share Capital}}$$

$$= \frac{450{,}000 - 15\% \text{ of } 4{,}00{,}000 - 30\% \text{ of } 4{,}50{,}000}{10{,}00{,}000}$$

$$= 0.2550$$

$$= 25.5\%$$

Higher the ROEC ratio, better the profitability of the company and hence better is the chance of earning of its shareholders. Thus we can conclude that the Return on Equity Capital (ROEC) ratio of the company is very high as it is found to 25.5%.



Exercise: 9.8

The market price of a NTL Auto Ltd. share is Rs.330 on 16th March, 2016 and earning per share is 5.50. Calculate price earnings ratio of NTL Auto Ltd.

Solution 8.7:

$$\text{Price earnings ratio} = \frac{\text{Market price per equity share}}{\text{Earnings per share}}$$

$$= \frac{330}{5.50}$$

$$= 60$$

Thus we can conclude that the market value of every one rupees of earning is sixty times or Rs.60.



Exercise: 9.9

Expan Ltd. has equity share capital of Rs.60,00,000 with a 10% preference share capital of Rs.4,50,000. The face value of the Expan Ltd. is Rs.10. The net profit before tax of the company for the financial year 2016-2017 is Rs.7,50,000. Calculate the earnings per share (EPS) of the company?

Solution 8.7:

To find EPS of Expan Ltd., first we have to find the total number of equity shares which can be calculated as follows:-

$$\text{Number of Equity Shares} = \frac{\text{Total Value of Equity Capital}}{\text{Face Value of the Share}}$$

= Rs.60,00,000 / Rs.10

= 6,00,000

The formula of earnings per share is given below:-

$$\text{Earnings per share (EPS) Ratio} = \frac{\text{(Net Profit after Tax - Perference Dividend}}{\text{No. of Equity Share}}$$

$$= \frac{(7,50,000 - 10\% \text{ of } 4,50,000)}{6,00,000}$$

= 7,05,000 / 6,00,000

= Rs.1.175 per share.

Therefore, the earnings per share of Expan Ltd. is Rs.1.175 per share. This figure may be compared with the similar type of companies and this will thus help investors to take a rational investment decision.

Exercise : 9.10



The following is the Balance Sheet and Statement of Profit for the year ended March 31,2016 of North East Chemicals Ltd.

Balance Sheet as on March 31, 2016

Liabilities	**(Rs)**	**Assets**	**(Rs)**
Equity Share Capital	10,00,000	Plant and Equipment	6,40,000
(Rs 100 each)		Land & Building	80,000
Reserves & Surplus	3,68,000	Cash	1,60,000
Creditors	1,04,000	Debtors	3,20,000
Bills payable	2,20,000	Inventory	4,92,000
Total	16,92,000	Total	16,92,000

Statement of profit for the year ended March 31, 2016

Particulars	**(Rs)**
Net Sales	40,00,000
Less: Cost of goods sold	30,80,000
Gross Profit on Sales	9,20,000
Less: Operating expenses	6,80,000
Net Profit	2,40,000
Less taxes @ 50%	1,20,000
Net profit after taxes	1,20,000

Determine the following ratios for North East Chemicals: Current ratio, Quick ratio, Inventory Turnover ratio, Receivables Turnover ratio,

Gross Profit ratio, Net Profit ratio, Operating ratio, Earnings per share, Return on Equity Capital and P/E ratio.

Solution:

Current Ratio $= \frac{\text{Current assets}}{\text{Current liabilities}}$

$= \frac{\text{Cash} + \text{Debtors} + \text{Inventory}}{\text{Creditors} + \text{Bills payable}}$

$= \frac{\text{Rs } 1,60,000 + 3,20,000 + 4,92,000}{\text{Rs } 1,04,000 + \text{Rs } 2,20,000}$

$= \frac{\text{Rs } 9,72,000}{\text{Rs } 3,24,000}$

= 3 : 1

Quick ratio $= \frac{\text{Liquid assets}}{\text{Current liabilities}}$

$= \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$

$= \frac{\text{Rs } 9,72,000 - 4,92,000}{\text{Rs } 3,24,000}$

$= \frac{\text{Rs } 4,80,000}{\text{Rs } 3,24,000}$

= 1.48:1

Inventory Turnover ratio $= \frac{\text{Cost of goods sold}}{\text{Inventory}}$

$= \frac{\text{Rs } 30,80,000}{\text{Rs } 4,92,000}$

= 6.3:1 times

Gross Profit ratio $= \frac{\text{Gross Profit}}{\text{Sales}} \times 100$

$= \frac{\text{Rs } 9,20,000}{\text{Rs } 40,00,000} \times 100$

= 23%

Net Profit ratio $= \frac{\text{Net Profit}}{\text{Sales}} \times 100$

$$= \frac{\text{Rs } 1,20,000}{\text{Rs } 40,00,000} \times 100$$

= 3%

Operating ratio $= \dfrac{\text{Cost of goods sold} + \text{Operating expenses}}{\text{Sales}} \times 100$

$$= \frac{\text{Rs } 30,80,000 + \text{Rs } 6,80,000}{\text{Rs } 40,00,000} \times 100$$

= 94%

Earnings per share (EPS) $= \dfrac{\text{Net Profit}}{\text{Number of equity shares}}$

(Number of equity shares $= \dfrac{\text{Equity Capital}}{\text{Par value}} = \dfrac{\text{Rs } 10,00,000}{\text{Rs } 100}$

= 10,000)

Earnings per share (EPS) $= \dfrac{\text{Rs } 1,20,000}{10,000}$

= Rs 12

Rate of return on equity capital $= \dfrac{\text{Net Profit}}{\text{Equity capital}} \times 100$

Rate of return on equity capital $= \dfrac{\text{Rs } 1,20,000}{\text{Rs } 13,68,000} \times 100$

= 8.8



Exercise : 9.11

From the ratio's and other data given below for the Asian Ltd, indicate your interpretation of the Company's financial condition.

Particulars	2016	2015	2014
Current Ratio	3.02	2.78	2.65
Acid-test	0.99	1.10	1.55
Working Capital turnover(times)	3.29	3.00	2.75
Receivable turnover (times)	7.20	8.41	9.83

Inventory Turnover (times)	5.41	6.01	6.11
EPS (Rs)	2.5	4.05	5.10
Op. exp. To sales (%)	25	23	18
Sales growth (%)	23	16	10
Net Profit Margin.(%)	2	5.09	7.03
Fixed Assets Turnover (%)	22.7	18.0	16.4
Return on Equity	7	8.5	11.07

Solution:

- Declining profitability is evident from the following.
- Decrease in net profit margin from 7% in 2014 to 2 % in 2016, even though, sales growth has increased from 10% to 23%. The main reasonmay be raising Operating expense ratio. The return to owners is very poor as the return on equity stands at only 7 %.
- Current Ratio is comfortable, even though the quick ratio has declined. This is mainly attributed to the fall in inventory turnover. But the company is likely to encounter difficulty in payment of short-term obligations as the receivable turnover is also low.

9.7 ADVANTAGES OF RATIO ANALYSIS

The ratio analysis is one of the most vital tools for analysing financial statements like Balance Sheet, Profit and Loss Accounts, Fund Flow Statement and Cash Flow Statement etc. A lot of information is given in these financial statements. Ratio analysis summarizes and simplifies these financial statement information for better understanding and draws conclusions regarding different aspects of the working of an organization in terms of liquidity, leverage, turnover, profitability and valuation aspects

for a required period. Ratio analysis is mostly useful to determine the efficiency and performance of an organisation during a specific period of time in the following ways:-

(a) Ratio analysis helps an organisation to find out the overall financial health in terms of profitability, liquidity, leverage, business turnover and valuation position of the organisation.

(b) Ratio analysis helps an organisation to find out whether incomes are more that the expenditure or not, whether adequate profits are being generated on the invested capital or not, whether the organisation has a capacity to pay the interest and dividend to its shareholders or not.

(c) The primary benefit of ratio analysis is that it helps to make a common platform where comparative Analysis of various companies across time can be done. Ratio analysis assists the management of an enterprise to find out the financial position of a particular company and its competitors in terms of different performance parameters like profitability, leverage, sales, expenses, inventory, valuations, turnover, etc. So, ratio analysis helps to find out the financial health of a company over last few years. It also helps to compare its financial health with its various competitors.

(d) Ratio analysis facilitates to form an industry average of various parameters by calculating the average of the ratios of the participants belonging to that industry. Then individual performances of the companies with respect to different performance categories can be compared with that of the particular industry average.

(e) Ratio analysis can help in business forecasting by calculating financial ratios of last few years. These ratios for the last few years become an input for the trend analysis of various business activities. For example, studying the trend of the profitability ratios for the last five to ten years of a firm, we can have some idea about its profitability for the next year.

(f) Ratio analysis also helps in preparing an organisational budget.

(g) Ratio analysis determines operational efficiency as measured by the turnover ratios. The turnover ratios assesse the degree of

operational efficiency of the management as well as the level of utilisation of the assets of a firm.

(h) Ratio analysis is an excellent way to communicate the performance of a firm in a simplified way to the various shareholders as well as to the stakeholders of the firm.

(i) Financial ratios are also used as a control devise for the intrafirm comparison as well as for the interfirm comparison of the business performance during a particular period of time.

(j) A proper and effective ratio analysis helps an organisation to assess its long term solvency position and also send signals of corporate growth prospects or bankruptcy.

9.8 LIMITATION OF RATIO ANALYSIS

As discussed above, ratio analysis is a powerful and popular tool for analysing the financial statements. We have already seen that ratio analysis has many advantages but it suffers from the following demerits:-

(a) A financial ratio of a firm in isolation for a particular year does not help and one cannot make any inference. Moreover, no conclusion can be drawn for a single ratio in isolation.

(b) There is lack of uniformity in the definition of various terms used in ratio analysis across various companies and across different industries.

(c) Ratios are calculated from the figures supplied by the financial statements. If these input figures suffer from some errors, then the ratio may provide a wrong conclusion.

(d) If the accounting principles and methods are different, the comparison of the financial ratios becomes meaningless exercise and would fetch a wrong interpretation of the performance of a business organisation.

(e) Financial ratios facilitate trend analysis over the past few years. But if there are changes in the price levels, then the comparison of a firm with that of its past performances may be misleading.

(f) Ratios are quantitative in nature and do not consider qualitative facts which are important to assess the operation and overall business performance of a firm.

(g) Financial ratios assess the performance of a firm based on the historical facts and may not be very useful in forecasting.



CHECK YOUR PROGRESS

Q5: Point out five merits of ratio analysis?

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Q6: Point out any five limitations of ratio analysis?

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Q7: State true or false for the following statements :

(i) A stock is overvalued means its market price is less than its true economic value.

(ii) Ratio analysis determines operational efficiency as measured by the turnover ratios.



9.10 LET US SUM UP

- In this unit, we have discussed some financial ratios that can be used to make the financial statement analysis for a firm.
- Financial statements represent the true economic and financial health of an organisation and facilitates in proper decision making on important organisational issues.
- Analysis and interpretation of financial statements is needed to assess the efficiency and performance of an organisation. Based on the financial statements, various financial ratios are calculated.
- Financial ratios basically establishes the relationship of interrelated items of the financial statements and represent different important organisational parameters profitability, liquidity, inventory, turnover, productivity, efficiency etc.

- Ratios are classified as liquidity ratios, leverage ratios, activity ratios, profitability and valuation ratios.
- Liquidity ratios represent the short-term solvency of an organisation or state its ability to meet financial obligation on their due dates.
- Financial leverage ratios represent stake of the owners in the business in relation to outside borrowings or long-term solvency.
- Activity ratios represent efficiency of management of various assets by the organisation.
- Profitability ratios represent the profitability of the organisation.
- Valuation ratios represent valuation of the equity stock of the company in the capital market.
- The advantages and disadvantages of ratio analysis.



9.11 FURTHER READING

1. Fisher & Jordan (2006), *'Security Analysis & Portfolio Management'*; Prentice Hall of India Pvt. Ltd., 6th Edition , New Delhi.
2. Avadhani, V.A (2008), *'Security Analysis and Portfolio Management'*; (Himalaya Publication House.
3. Chandra Prasanna (2009), *'Investment Analysis and Portfolio Management*'; Tata McGraw Hill.
4. Geoffrey A Hirt (2008), *'Fundamental of Investment Management*'; Tata McGraw Hill.
5. Sudhindra Bhat (2007), *'Security Analysis and Portfolio Management'*; Excel Books.
6. Valla, V.K. (2008), *'Investment Management', 14th Edition;* S. Chand & Company, New Delhi.

9.12 ANSWERS TO CHECK YOUR PROGRESS

Ans to Q.1: There are different types of financial ratios calculated from the financial statements of business organisations. The financial leverage ratios are basically classified as –

(a) Debt-equity ratio

(b) Intertest Coverage ratio

(c) Debt ratio.

Ans to Q.2: Liquidity refers to the ability of a firm to meet its obligations in short run, usually one year. It is necessary for conducting business activity particularly during shut down or strike or recession.

Ans to Q.3: P/E indicates both whether a stock is undervalued or overvalued. Heigher the P/E ratio, better the performance of the company. Decrease in P/E ratio, company is not performing well.

Ans to Q.4: (i) True, (ii) False, (iii) True.

Ans to Q5: Ratio analysis is mostly useful to determine the efficiency and performance of an organisation during a specific period of time in the following ways:-

(a) Ratio analysis helps an organisation to find out the overall financial health in terms of profitability, liquidity, leverage, business turnover and valuation position of the organisation.

(b) Ratio analysis helps an organisation to find out whether incomes are more that the expenditure or not, whether adequate profits are being generated on the invested capital or not, whether the organisation has a capacity to pay the interest and dividend to its shareholders or not.

(c) The primary benefit of ratio analysis is that it helps to make a common platform where comparative Analysis of various companies across time can be done.

(d) Ratio analysis facilitates to form an industry average of various parameters by calculating the average of the ratios of the participants belonging to that industry.

(e) Ratio analysis can help in business forecasting by calculating financial ratios of last few years.

Ans to Q.6: The following are some of the disadvantages of ratio analysis

(i) No conclusion can be drawn for a single ratio in isolation.

(ii) Ratios are quantitive in a nature and do not consider qualitative facts which are also important.

Ans to Q7: (i) False, (ii) True.



9.13 MODEL QUESTIONS

1. What are the benefits of computing financial ratios of a company?
2. How liquidity ratios can be a useful tool to understand the liquidity position of an organisation?
3. What does the interest coverage ratio of a firm indicates?
4. What are the uses of valuation ratios?
5. For stock market investors, what are the most important ratios need to be considered before an investment?
6. On 01/02/2016, the market price of one TCS share is Rs.2220 and the stock's earning per share is Rs.42. Calculate price earnings ratio of TCS on 01/02/2016.
7. ITCP Ltd. has equity share capital of Rs.3,00,00,000 with a 10% preference share capital of Rs.2,00,000. The face value of the ITC Ltd. is Rs.1. The net profit before tax of ITC Ltd. for the financial year 2016-2017 is Rs. 39,00,000. What is the earnings per share (EPS) of the company?

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UNIT 10: FINANCIAL STATEMENTS

UNIT STRUCTURE

10.1 Learning Objectives

10.2 Introduction

10.3 Financial Statements

10.4 Profit And Loss Account

10.5 Balance Sheet

10.6 Components of Balance Sheet

10.7 Meaning of Fund Flow Statement

10.8 Ascertainment of Flow of Funds

10.9 Technique of Preparing Funds Flow Statement

10.10 Schedule of Changes in Working Capital

10.11 Adjusted Profit and Loss account

10.12 Practical Problems

10.13 Let Us Sum Up

10.14 Further Reading

10.15 Answer To Check Your Progress

10.16 Model Questions

10.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:-

- describe the concept of financial statment
- explain the concept of profit & loss account and balance sheet
- describe the concept of Fund Flow Statement
- discuss the ascertainment of Flow of Funds
- discuss the technique of Preparing Funds Flow Statement
- discuss the Schedule of Changes in Working Capital

10.2 INTRODUCTION

In this unit we are going to discuss about different financial statements, like- balance sheet, profit and loss account and fund flow statement.

The unit will start with the concept of financial statement. Financial statements provide information about a company and its performance over a period of time on the basis of which its credit worthiness, share price, future perormance etc can be judged.

An important financial statement is Profit and loss account, which represents the summary of revenues, expenses and net income (or net loss) of a company.

Moreover, we are going to discuss the concept of Funds Flow statement. A fund flow statement is a statement which explains the various sources from which funds were raised and the uses to which these funds were put. In other words, a fund flow statement is used to explain the movement of working capital. You will find this unit very interesting because, after going through this unit you will able to analyse the financial position of different companies.

10.3 FINANCIAL STATEMENTS

Financial statements are the sources of information for financial decisions. These statements provide information on how a company has been performing over the years and are useful for financial forecasting and planning. A financial statement is a collection of data organized in accordance with logical and consistent accounting procedures. In the words of John Myer : " The financial statements provide a summary of the accounts of a business organization, the balance sheet reflecting the assets, liabilities and capital as on a certain date and the income statement showing the results of operations during a certain period." Thus financial statements are periodic financial reports of a company.

The commonly used financial statements are the followings- Profit and Loss Account, Balance Sheet, Statement of Cash Flows and Statement of Fund Flow.

10.4 PROFIT AND LOSS ACCOUNT

Profit and loss account represents the summary of revenues, expenses and net income (or net loss) of a company. This statement is a

performance report recording the changes in income, expenses, profits and losses as a result of business operations. When the revenues are more than expenditures, there will be a profit. If the expenditures are in excess of revenues, there will be loss. This profit and loss or income statement is prepared for a particular period, generally a year for determining the performance of the company.

The Companies Act specifies that the profit and loss accounts must show information as required by Schedule IV. This account may be presented in the account form or the report form. The report form statement may be a single-step statement or a multi-step statement. In a single step statement, all revenue items are recorded first then the expenses items are shown and finally the net profit is given. But a multi-step profit and loss account provides disaggregated information. Table 10.3 represents a single step Profit and Loss account and Table 10.4 represents a multi-step Profit and Loss account.

Table 10. 3: Profit and Loss Account of ABC Ltd. for the year ending on March 2017.

Particulars	**Rs. in million**
Income:	
(i)Sales	701
Expenditure:	
(ii)Material & other expenditure	582
(iii)Interest	21
(iv)Depreciation	30
(v)Profit before tax[(i)-(ii)-(iii)-(iv)]	68
(vi)Provision for tax	34
(vii)Profit after tax [(v) – (vi)]	34

Table 10.4: Profit and Loss Account of ABC Ltd. for the year ending on March 2017.

Particulars	**Rs. in million**	
A. Net Sale		701
B. Cost of goods sold		552
Stocks	421	
Wages & salaries	68	
Other manufacturing expenses	63	
C. Operating expenses		60
Depreciation	30	
General administration	12	
Selling	18	
D. Operating profit/Profit before interest & Tax (A-B-C)		89
E Interest		
F Profit before tax (D-E)		21
G Provision for tax (@50%)		68
Profit after tax (F-G)		34
		34

10.5 BALANCE SHEET

Balance sheet is the most significant financial statement. The balance sheet shows the financial condition of a business at a given point of time. It lists the sources of funds as well as their uses. It is

a classified summary of assets and the sources of financing the assets. However, it is a static statement as it shows the position of the business at a certain moment of time. The companies registered under the Companies Act, 1956 have to show their assets and liabilities in the balance sheet in accordance with the form prescribed under this Act. As per the Companies Act, the balance sheet of a company may be in either the account form or the report form, the structure of both forms are given below:

Balance sheet of Assam Warehousing Ltd.'s as on March 31,2017

Table 10.1: Account Form

Liabilities	**Rs. In million**	**Assets**	**Rs. in million**
Share capital	250	Fixed assets	330
Resources & surplus	112	Investment	115
Secured loans	143	Current assets, loans & advances	234
		Miscellaneous expenditures and loans	
Unsecured loans	69		0
Current liabilities and provisions	105		
Total	**679**	**Total**	**679**

Table 10.2: Report Form

I. Sources of funds	Rs. In million	
1. Shareholders funds		362
a). Share capital	250	
b). Reserves & surplus	112	
2.Loans funds		212
a). Secured loans	143	
b). Unsecured loans	69	
TOTAL		574

II. **Application of funds**		
1. Fixed Assets		330
2. Investments		1 15
3. Current Assets, Loans & Advances	234	
Less: Current Liabilities and Provisions	105	
Net Current Assets		129
4. Miscellaneous expenditures and losses		-
TOTAL		574

10.6 COMPONENTS OF BALANCE SHEET

a. Liabilities: Liabilities defined broadly, means what the company owes to others. Liabilities represent debts payable in the future by the company to its lenders and creditors. Liabilities are of

two types (i) current liabilities and (ii) long-term liabilities. Current liabilities are debts payable within an accounting period whereas long term liabilities are the obligations or debts payable in a period of time greater than the accounting period. The components of long term and current liabilities are described below:

(i) Equity Capital: Equity capital represents ownership capital, as equity shareholders collectively own the company. Their liability is limited to their capital contribution. Though the paid-up share capital is shown against the share capital, but the balance sheet also provides information on authorised capital, issued capital, subscribed capital. The amount of capital that a company can potentially issue, as per its memorandum, represents the authorised capital. The amount offered by the company to the investors is called the issued capital and the part of issued capital which has been subscribed to by the investors is called the subscribed capital

(ii) Reserves and Surplus: This comprises of retained earnings as well as non-earnings items like share premium and capital subsidy.There are two kinds of resources, namely - Capital Reserves and Revenue Reserves.

- Capital Reserves includes items such as share premium account, revaluation reserve, and capital redemption reserve. A capital reserve cannot be distributed as dividend to shareholders.
- Revenue reserves represent accumulated retained earnings from the profits of business. They are held in accounts like investment allowance reserve, dividend reserve, taxation reserve and general reserve.

The reserves and surplus along with paid up capital represent owners' equity which is also called shareholders' funds or net worth

(iii) Secured Loans: These loans are secured by a charge on the assets of the company. The charge may be created in the form of pledge or hypothecation of movable assets such as

inventories and debtors or in the form of mortgage of immovable assets such as land, buildings and plant and machinery.

(iv) **Unsecured Loans:** These loans are not secured by a charge on the assets of the company. The most common forms of unsecured loans are public deposits, commercial paper, unsecured loans from promoters, commercial banks and financial institutions.

(v) **Current Liabilities and Provisions:** These include items such as bills payable, sundry creditors, advance payments and interest accrued but not due on loans. Provisions include items such as provision for taxes, provision for dividend, and provision for provident fund, gratuity etc.

b. Assets: Assets are resources, which are expected to provide a company with future economic benefits. Assets represent (a) stored purchasing power (e.g. cash), (b) money claims (e.g. receivables, stock) and (c) tangible and intangible items which generate earnings. Under the Companies Act, assets can be classified as :

i. Fixed Assets,
ii. Investments,
iii. Current Assets, Loans and Advances and
iv. Miscellaneous expenditure and loans.

Let us discuss these in detail:

i. Fixed Assets*:* These are assets that are expected to produce benefits for more than one year. Fixed assets are divided into two categories-tangible or intangible. Tangible fixed assets include items such as loans, buildings, plant, machinery and other assets, which can be used more than one year. These assets are reported in the balance sheet at their net book value, which is the gross value less accumulated depreciation whereas intangible fixed assets include items like – patents, copyrights, trademarks and goodwill. Intangible fixed assets are reported at their net book value, which is simply the gross value less accumulated amortisation.

ii. **Investments***:* Investments represent financial securities owned by the company. These can be divided into two categories-long term and current investments. Long-term investments comprise of financial securities like equity shares, preference shares and debentures of other companies. Current investment represents short-term holdings of units or shares of mutual fund schemes. These investments are made primarily to generate income from short-term cash surpluses of the company.

iii. **Current Assets, Loans and Advances:** These are called as liquid assets as these assets are either held in the form of cash or are expected to be converted in cash within the accounting period of the business. Current assets include cash, tradable (marketable) securities, debtors (account receivables) and stock of raw materials, work-in-process and finished goods. Further loans and advances comprise of items such as advances and loans to subsidiaries, advances recoverable in cash and deposits with governmental authorities.

iv. **Miscellaneous Expenditure and Loans***:* Miscellaneous expenditure comprises of items such as preliminary expenses, discount allowed on the issue of securities, interest paid out of capital during construction and development expenditure to the extent not written off or adjusted. Whereas “losses” are the debit balance of profit and loss account carried forward after deduction of the uncommitted reserves, if any exist.

10.7 MEANING OF FUND FLOW STATEMENT

The two most important financial statements are Profit and Loss Accounts and Balance Sheet which represents the financial health of a business. This is true but these two statements are not able to address some important issues. For example, the Balance Sheet shows the position of total assets and total liabilities in a particular financial year. It also shows the changes in the assets and liabilities of a particular year with respect to its previous years. But Balance Sheet does not show the major financial and investment transactions which largely influence the business decisions

in the short as well as in the long run. Moreover, the Balance Sheet also fails to explain why and how the changes in assets and liabilities have taken place. Again the Balance Sheet depicts the financial position of a business on a particular day (usually the last day of the current financial year). So it is static in nature and on the very next day, we may find a different position of asset and liability with only few big transactions. So under this kind of circumstances, Balance Sheet may not actually reflect the true picture of the financial position of a business. Although, it is understood that because of the various business activities, there are changes in assets and liabilities. Finally we see that a Balance Sheet does not reflect the business activities of a firm, it only shows the final position of assets and liabilities on a particular day. In this context, the fund flow statement is a statement of changes in financial position. Here, the word 'fund' represents the working capital of the business. Working capital is the difference between current assets and current liabilities. By 'fund' we mean cash, short-term monetary assets, net monetary assets, working capital and financial resources. In the words of Almand Coleman, fund flow statement is:-

"…a statement summarising the significant financial changes which have occurred between the beginning and the end of company's accounting period."

Fund Flow Statement is a supplementary statement and shows the sources of mobilisation of the funds and their detailed utilisation during a particular financial year. Finally the Fund Flow Statements clearly identify the changes in working capital and also help the management to find out the factors responsible for this working capital changes. It is the Fund Flow Statement which helps management about the allocation of resources and shows the operational aspects of the business activities which is not available in Profit and Loss Account and Balance Sheet.

10.8 ASCERTAINMENT OF FLOW OF FUNDS

In order to depict the ways and reasons for the movements in the funds of a business organisation for a specific purpose, a fund flow statement is prepared. Preparation of fund flow statement is not legally mandatory.

So, there is no such specific format available for the preparation of the fund flow statement. The main objective of preparing the fund flow statement is to ascertain the changes in the funds position for a specific purpose during an accounting period. Ascertainment of the flow of fund depends on the sources of fund and application of fund which may be explained with the help of the following relationship:-

Source of Fund – Application of Fund = Change in Working Capital

In the above equation, source of fund includes changes in equity, liabilities and non-current assets which increase the working capital. On the other hand, application of fund represents the decrease in the working capital due to changes in equity, non-current liabilities and non- current assets. Thus we see that in order to ascertain flow of funds in an organisation, a clear understanding of the changes in working capital. Working capital is defined below:-

Working Capital = Current Assets – Current Liabilities

10.9 TECHNIQUE OF PREPARING FUND FLOW STATEMENT

There are basically three steps to prepare Fund Flow Statement which is illustrated below:-

(a) Prepare the Statement of Changes in Working Capital: The first step to prepare the Fund Flow Statement is to formulate the statement of changes in working capital. Working capital is the difference between current assets and current liabilities. So any changes in the current assets and current liabilities bring changes in the working capital statement. For example, an increase in the amount of current assets will increase the working capital. This could be understood from the following table:-

Particulars	As on March 31, 2016	As on March 31, 2017	Increase (in Rs.)
Current Assets:			
Stocks	10,00,000	13,00,000	3,00,000
Debtors	5,00,000	8,00,000	3,00,000
Cash	2,00,000	3,00,000	1,00,000
Total Current Assets	17,00,000	24,00,000	7,00,000
Current Liabilities:			
Creditors	6,00,000	6,00,000	0
Bills Payable	2,00,000	2,00,000	0
Outstanding Expenses	3,00,000	3,00,000	0
Total Current Liabilities	11,00,000	11,00,000	0
Working Capital	6,00,000	13,00,000	7,00,000

Again, an increase in the amount of current liabilities will decrease the working capital. This could be understood from the following table:-

Particulars	As on March 31, 2015	As on March 31, 2016	Increase (in Rs.)
Current Assets:			
Stocks	10,00,000	10,00,000	
Debtors	5,00,000	5,00,000	
Cash	2,00,000	2,00,000	
Total Current Assets	17,00,000	17,00,000	
Current Liabilities:			
Creditors	6,00,000	7,00,000	1,00,00
Bills Payable	2,00,000	3,00,000	1,00,00
Outstanding Expenses	3,00,000	4,00,000	1,00,00
Total Current Liabilities	11,00,000	14,00,000	3,00,00
Working Capital	6,00,000	3,00,000	-3,00,00

Similarly, a decrease in the amount of current assets will decrease the working capital. But a decrease in the amount of current liabilities will increase the working capital of the business for the particular financial year.

(b) Prepare the Statement of Sources and Application of Funds: This statement is prepared taking information from the Balance Sheet. At first a statement is prepared identifying the changes in the Share Capital, Long-Term Liabilities, and Other Long Term Fixed Assets from the Balance Sheet.

Statement of Sources and Applications of Fund of XYZ Ltd. for the year ending

Sources	Amount (in Rs.)	Applications	Amount (in Rs.)
Fund from operations**		Funds Depleted by Operation**	
Issue of Shares & Debentures		Redemption of Preference Share & Debentures	
Long-Term Loans		Purchase of Investments, Fixed Assets etc.	
Sale of Investments, Fixed Assets, etc.,		Repayment of Loan	
Non-Trading Income		Non-Trading Expenses	
Decrease in Working Capital		***Increase in Working Capital***	
Total Sources of Fund		Total Applications of Fund	



CHECK YOUR PROGRESS

Q1: What are the issues that Profit and Loss Accounts and Balance Sheet fails to address?

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Q2: What is Fund Flow Statement?

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Q3: State true or false for the following statements:

(i) A Balance Sheet does not reflect the business activities of a firm, it only shows the final position of assets and liabilities on a particular day.

(ii) An application of fund represents the increase in the working capital due to changes in equity, non-current liabilities and non-current assets.

(iii) A decrease in the amount of current liabilities will increase the working capital of the business for the particular financial year.

10.10 SCHEDULE OF CHANGES IN WORKING CAPITAL

Once we are ready with all the changes that has been taken place with respect to the Share Capital, Long-Term Liabilities, and Other Long Term Fixed Assets, we are ready to prepare the Fund Flow Statement. There is no specific standard format to prepare the Fund Flow Statement as such. The schedule of changes in working capital may be shown following way:-

Particulars	**At the End of**		**Changes in Working Capital**	
Current Assets:	Previous Year (in Rs.)	Current Year (in Rs.)	Increase (in Rs.)	Decrease (in Rs.)
Cash on Hand				
Cash at Bank				
Stocks				
Debtors				
Bills Receivable				
Prepaid Expenses				
Accrued Income				
Total Current Assets (A)	A1	A2	A2 - A1 = M	
Current Liabilities:				
Creditors				
Bank Overdraft				
Bills Payable				
Outstanding Expenses				
Unclaimed Dividend				
Unpaid Dividends				
Total Current Liabilities (B)	B1	B2	B2 - B1 = N	
Working Capital (A - B)	A1 - B1 = X1	A2 - B2 = X2		
Total Increase/Decrease in the Working Capital			M - N	

If X1 >X2, this implies the working capital has increased. On the other hand, if X1<X2, this implies the working capital has decreased. It must be noted that only changes in the working capital i.e., X2 – X1 is taken to the Fund Flow Statement. An increase in the working capital is considered as application of fund and a decrease in the working capital is regarded as source of fund. Symbolically, we can write as follows:-

X1 > X2 ⟹ Application of Fund

X1 < X2 ⟹ Source of Fund

10.11 ADJUSTED PROFIT AND LOSS ACCOUNT

The main source of fund is the current operating profit which is the excess of sales revenue over operating cost. Sales revenue represents inflow of funds which includes sundry debtors, cash and bills receivables. Operating cost represents outflow of funds. This outflow of funds in turn reduces cash and bank balances and increase in sundry and expense creditors. Thus we understand that fund inflow denotes source of fund whereas fund outflow denotes application of funds.

Basically there are two types of fund transactions viz., operation transactions and non-fund transactions. There are some non-fund transactions like depreciation, write-offs, dividend received, interest on investment, refund of tax, profit on sale of fixed assets, appropriation etc. which are charged to profits. These types of non-fund transactions are shown separately as a source of funds and adjusted to the profit and loss account of the current financial year. as given below:-

Proforma of Adjusted Profit & Loss Account

Debit	Amount (Rs.)	Credit	Amount (Rs.)
To Loss of sales of fixed assets written-off		By Opening balance	
To Other expenses written-off		By Gain on sale of fixed assets	
To Goodwill written-off		By Taxation written back	
To Provision for taxes		By Dividends already credited to P & L a/c	
To Proposed Dividend		By Funds from trading operations (Balancing Figure)	
To Discount on issues of shares & debentures			
To Deferred revenue expenses charged earlier			
To Transfer to general reserve			
To Transfer to sinking fund			
To Closing Stock			

While preparing the adjusted profit and loss account, it must be noted that if a business has accumulated losses, then in the adjusted P and L account opening balance should be shown in the debit side and closing balance must be shown in the credit side.

Let us take an example to understand the concept.



Exerciese 10.1

Financial information is provided by XYZ Ltd. for the accounting period 2015 – 2016. Your task is to calculate the fund from operation and also prepare an adjusted profit and loss account.

Trading and Profit & Loss Account

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Cash purchase of materials	875,000	By Sales	1050,000
To Gross profit c/d	175,000		
	1050,000		1050,000
To start-up expenses written-off	8,750		
To Discount on issues of bonds	26,250	By Gross profit c/d	175,000
To Goodwill written off	17,500	By Bonus received	52,500
To Salaries	140,000	By Interest on investments	52,500
To Rent	122,500		
To Depreciation	35,000	By Net loss	70,000
	350,000		350,000

Solution:

Calculation of Funds from Operations

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Items not affecting the funds:		By Non-Operating Income:	
Start-up expenses written-off	8,750	Bonus received	52,500
Discount on issues of bonds	26,250	Interest on investments	52,500
Goodwill written off	17,500	Reported net loss	70,000
Depreciation	35,000		
Funds lost from operations* (Balancing figure)	87,500		
	175,000		175,000

10.12 PRACTICAL PROBLEMS

The proforma of a fund flow statement is shown below:-

Proforma of a Fund Flow Statement

Sources	Amount (Rs.)	Applications	Amount (Rs.)
Sale of fixed assets		Purchase of fixed assets	
Sale of investments		Purchase of investments	
Long-term & medium-term loans availed		Payment of dividends (last year or interim)	
Issue of shares		Repayment of loans	
Issue of bonds & debentures		Redemption of shares	
Trading profits		Redemption of Bonds & Debentures	
Non-trading income		Funds lost from operations	
		Non-trading payments	
Net decrease in working capital, as per schedule of changes in working capital		Net increase in working capital, as per schedule of changes in working capital	
Total		Total	



Exerciese 10.2

From the following balance sheet of Expan Ltd., prepare a fund flow statement.

Balance Sheet of Expan Ltd. as on March 31st …..

Assets	2015	2016	Liabilities	2015	2016
Land	75000	125000	Equity Share Capital	62500	62500
Building	50000	50000	Preference Share	25000	25000
Debtors	62500	125000	Long-term Loans	37500	50000
Cash in Hand	25000	50000	Creditors	25000	137500
Stock	25000	37500	Profit & Loss a/c	87500	112500

Solution: We have to first calculate the statement of changes in working capital.

Statement of Changes in Working Capital of Expan Ltd.

Particulars	2015	2016	Increase in Working Capital	Decrease in Working Capital
Current Assets:				
Debtors	62,500	125,000	62,500	
Cash in Hand	25,000	50,000	25,000	
Stock	25,000	37,500	12,500	
Total (1)	112,500	212,500		
Current Liabilities:				
Creditors	25,000	137,500		
Total (2)	25,000	137,500		112,500
Net Working Capital (1) – (2)	87,500	75,000		
Decrease in Working Capital		12,500	12,500	
Totals	87,500	87,500	112,500	112,500

Now we are ready to prepare the Fund Flow Statement.

Fund Flow Statement of Expan Ltd.

Particulars		Amount
Sources		
Funds from operations (Increase in Profit)		25,000
Increase in Long-Term Loan		12,500
Decrease in Working Capital		12,500
	Total (1)	50,000
Applications		
Land	Total (2)	50,000



Exerciese 10.3

From the following balance sheet of GCTIL Ltd., prepare a fund flow statement.

Balance Sheet of GCTIL Ltd. as on March 31, ……

Assets	2016	2017	Liabilities	2016	2017
Land	101250	168750	Equity Share Capital	84375	84375
Building	67500	67500	Preference Share	33750	33750
Debtors	84375	168750	Long-term Loans	50625	67500
Cash in Hand	33750	67500	Creditors	33750	185625
Stock	33750	50625	Profit & Loss a/c	118125	151875

Solution: We have to first calculate the statement of changes in working capital.

Statement of Changes in Working Capital of GCTIL Ltd.

Particulars	2016	2017	Increase in Working Capital	Decrease in Working Capital
Current Assets:				
Debtors	84375	168750	84375	
Cash in Hand	33750	67500	33750	
Stock	33750	50625	16875	
Total (1)	151875	286875		
Current Liabilities:				
Creditors	33750	185625		
Total (2)	33750	185625		151875
Net Working Capital (1) – (2)	118125	101250		0
Decrease in Working Capital	0	16875	16875	0
Totals	118125	118125	151875	151875

Now we are ready to prepare the Fund Flow Statement.

Fund Flow Statement of GCTIL Ltd.

Particulars		Amount
Sources		
Funds from operations (Increase in Profit)		33750
Increase in Long-Term Loan		16875
Decrease in Working Capital		16875
	Total (1)	67500
Applications		
Land	Total (2)	67500



Exercise 10.4

From the following financial information of Vijay Cements Ltd., prepare a fund flow statement for the year ended March 31, 2017.

Assets	2016	2017	Liabilities	2016	2017
Closing Stock	577,500	665,000	Creditors	350,000	376,250
Fixed Assets	787,500	1050,000	Share Capital	350,000	525,000
Investment in T-Bills	175,000	262,500	Preference Shares	350,000	175,000
Debtors	192,500	201,250	Debentures	175,000	262,500
Bank Balance	87,500	236,250	Reserves	262,500	708,750
Cash in Hand	17,500	35,000	Bad Debt Provisions	17,500	26,250
Start-up Expenses (Not written-off)	17,500	8,750	Bills Payable	262,500	262,500
			Short-Term Loans	87,500	122,500

Some preference shares of the company were redeemed worth Rs.17,500 in the beginning of the year 2017. The company also paid dividend of Rs.17,500 on equity shares and 21,000 on preference shares during the year.

Solution: We have to first calculate the statement of changes in working capital.

Particulars	2016	2017	Increase in Working Capital	Decrease in Working Capital
Current Assets:				
Debtors (less: Provisions for Bad Debt)	175,000	175,000		
Bank Balance	87,500	236,250	148,750	
Closing Stock	577,500	665,000	87,500	
Cash in Hand	17,500	35,000	17,500	
Total (1)	875,000	1111,250	253,750	
Current Liabilities:				
Creditors	350,000	376,250		26,250
Bills Payable	262,500	262,500		0
Short-Term Loans	87,500	122,500		35,000
Total (2)	700,000	761250		61,250
Net Working Capital (1) – (2)	157,500	350,000		
Increase in Working Capital	192,500			192,500
Totals	350,000	350,000	253,750	253,750

Next step is to prepare the statement of sources and application of funds. To do so, we have to prepare first the fund from operation statement to arrive at the source or application of the funds. Fund from operation statement is prepared after removing the effect of non-operating items.

Fund from Operation Statement of Vijay Cements Ltd.

Particulars		Amount
Net Profit for the Year (Increase in Reserve)		446,250
Add: Non-operating Expenses	8,750	
Redemption of Preference Shares	17,500	
Dividend on Equity	17,500	
Dividend on Preference Shares	21,000	64,750
	Total Fund from Operations	511,000

Let us now prepare the Fund Flow Statement below:-

Fund Flow Statement of Vijay Cements Ltd. for the Year 2017.

Particulars		Amount
Sources		
Funds from operations		511,000
Issue of Share Capital		175,000
Issue of Debentures		87,500
	Total (1)	773,500
Applications		
Fixed Assets		262,500
Preference Shares Redemption		192,500
Investment in T-Bills		87,500
Preference Dividend Paid		21,000
Equity Dividend Paid		17,500
Increase in Working Capital		192,500
	Total (2)	773,500



CHECK YOUR PROGRESS

Q4: Briefly discuss the schedule of change in working capital.

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Q5: What would be the effect of decrease in working capital in the fund flow statement?

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Q6: While preparing the adjusted profit and loss account, if a business has accumulated losses, where the opening balance should be shown in the adjusted P & L account?

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Q7: State true or false for the following statements:

(i) There is no specific standard format to prepare the Fund Flow Statement.

(ii) If total current asset exceeds total current liability, this implies the working capital has decreased.

(iii) Non-fund transactions are shown separately as a source of funds and adjusted to the profit and loss account of the current financial year.



10.13 LET US SUM UP

In this unit the following topics have been leraned:

- In this unit we have disussed the concept of financial Statement analysis and Funds Flow Statement.

- Financial statements are the sources of information for financial decisions
- The profit and loss account reflects the performance of a firm over a period of time.
- The balance sheet shows the financial position of a firm at a given point of time.
- The unit discusses the ascertainment of Flow of Funds and the technique of preparing a Fund Flow Statement.
- The unit focussed the schedule of changes in Working Capital and adjusted Profit and Loss account.
- The first step to prepare the Fund Flow Statement is to formulate the statement of changes in working capital. Working capital is the difference between current assets and current liabilities. So any changes in the current assets and current liabilities bring changes in the working capital statement.
- An increase in the amount of current assets will increase the working capital. Again, an increase in the amount of current liabilities will decrease the working capital. Similarly, a decrease in the amount of current assets will decrease the working capital. But a decrease in the amount of current liabilities will increase the working capital of the business for the particular financial year.
- The Statement of Sources and Application of Funds is prepared taking information from the Balance Sheet.



10.14 FURTHER READINGS

1. Srinivasan, N.P & Murugan, M.S.(2011), '*Accounting for Management',* S Chand Publishing, India
2. Ramachandran, N. & Kakani, R.K. (2011), '*Financial Accounting for Management*', McGraw Hill Education
3. Bhattacharya, A.K. (2012), '*Financial Accounting for Business Managers*',PHI.

10.15 ANSWER TO CHECK YOUR PROGRESS

Ans to Q.1: The two most important financial statements are Profit and Loss Accounts and Balance Sheet which represents the financial health of a business. The balance sheet address some important issues like

a. It does not show the major financial and investment transactions which largely influence the business decisions in the short as well as in the long run.

b. The Balance Sheet also fails to explain why and how the changes in assets and liabilities have taken place.

c. The Balance Sheet is static in nature and on the very next day, we may find a different position of asset and liability . So under this kind of circumstances, Balance Sheet may not actually reflect the true picture of the financial position of a business.

Ans to Q.2: Fund Flow Statement is a supplementary statement and shows the sources of funds and their detailed utilisation during a particular financial year. The Fund Flow Statements clearly identify the changes in working capital and also help the management to find out the factors responsible for this working capital changes.

Ans to Q.3: (i) True; (ii) False; (iii) True

Ans to Q.4: The schedule of changes in working capital may be shown following way:-

Particulars	At the End of		Changes in Working Capital	
Current Assets:	Previous Year (in Rs.)	Current Year (in Rs.)	Increase (in Rs.)	Decrease (in Rs.)
Cash on Hand				
Cash at Bank				
Stocks				
Debtors				
Bills Receivable				
Prepaid Expenses				
Accrued Income				
Total Current Assets (A)	A1	A2	A2 - A1 = M	
Current Liabilities:				
Creditors				
Bank Overdraft				
Bills Payable				
Outstanding Expenses				
Unclaimed Dividend				
Unpaid Dividends				
Total Current Liabilities (B)	B1	B2	B2 - B1 = N	
Working Capital (A - B)	A1 - B1 = X1	A2 - B2 = X2		
Total Increase/Decrease in the Working Capital			M - N	

If X1 >X2, this implies the working capital has increased. On the other hand, if X1<X2, this implies the working capital has decreased. It must be noted that only changes in the working capital i.e., X2 – X1 is taken to the Fund Flow Statement. An increase in the working capital is considered as application of fund and a decrease in the working capital is regarded as source of fund. Symbolically, we can write as follows:-

X1 > X2 ⟹ Application of Fund

X1 < X2 ⟹ Source of Fund

Ans to Q.5: The decrease of working capital would be treated as a source in the fund flow statement.

Ans to Q6: While preparing the adjusted profit and loss account, it must be noted that if a business has accumulated losses, then in the adjusted P & L account opening balance should be shown in the debit side.

Ans to Q.7: (i) True; (ii) False; (iii) True



10.16 MODEL QUESTIONS

Q1. Distinguish between Balance Sheet and Profit and Loss Statement.

Q2. What comes under fixed assets and current assets?

Q3. Write the different steps for preparation of funds flow statement on cash basis.

Q4. From the following accounting information of a company, prepare a fund flow statement.

Assets	31-03-2015	31-03-2016
Cash	162,500	50,000
Debtors	125,000	200,000
Stock	293,750	318,750
Land and building	675,000	1275,000
Plant and machinery	3505,000	4430,000
Furniture	262,500	262,500
	5023,750	6536,250
Liabilities		
Long-term loans		668,750
Provisions for dividend		250,000
Creditors	398,750	456,250
Net Worth		
Equity Share Capital	4500,000	5000,000
Surplus	125,000	161,250
	5023,750	6536,250

Q5. For a company TCIL Ltd., prepare a Fund Flow Statement from the following information derived from the Balance Sheet.

Particulars	1st April 2016 (in Rs.)	31st March 2017 (in Rs.)
Land	100000	100000
Buildings	500000	400000
Equipment	375000	425000
Accounts Receivable	250000	517500
Accumulated Depreciation	-125000	-70000
Patents	15000	12500
Copyrights	10000	10000
Inventories	375000	375000
Cash	1000000	1110000
Total Assets	***25,00,000***	***28,80,000***
Capital Stock	875000	1087500
Retained Earnings	375000	487500
Debentures Payable	550000	550000
Debenture Payable Discounts	-50000	-45000
Current Liabilities	750000	800000
Total Liabilities	***25,00,000***	***28,80,000***

For the financial year 2016 – 2017, the income of TCIL Ltd. was 2,50,000. The company issued common stock of Rs.1,25,000 as well as cash dividends of Rs.50,000 and stock dividends of Rs.87,500 were announced. Moreover, it has been found from the Annual Report that the company possesses a building that cost Rs.1,00,000 and which had a book value of Rs.25,000 was sold for Rs.35,000. The depreciation charged for the same financial year was Rs.20,000.

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UNIT 11: CASH FLOW STATEMENT

UNIT STRUCTURE

11.1 Learning Objective

11.2 Introduction

11.3 Meaning of Cash Flow Statement

11.4 Purpose of Cash Flow Statement

11.5 Preparation of Cash Flow Statement

11.6 Format of Cash Flow Statement (AS3: Revised Method)

11.7 Cash Flow from Operating Activities

11.8 Cash Flow Statement under Direct Method

11.9 Differences between Cash Flow Statement and Fund Flow Statement

11.10 Uses of Cash Flow Statement

11.11 Let Us Sum Up

11.12 Further Readings

11.13 Answer To Check Your Progress

11.14 Model Questions

11.1 LEARNING OBJECTIVES

After going through this unit, you will be able to:-

- discuss the meaning and purpose of Cash Flow Statement
- learn about Cash Flow from Operating Activities
- prepare the Cash Flow Statement under Direct Method
- outline the distinction between Cash Flow Analysis and Fund Flow Analysis
- discuss the uses of Cash Flow Statement

11.2 INTRODUCTION

In the earlier unit we have discussed the concept of Financial Statement Analysis and Funds Flow Analysis. In this unit, we will discuss the concept of cash flow analysis. Cash flow helps us to make projections

of cash inflows and outflows for the near future to determine the availability of cash during a particular time period. You will find this unit very interesting because, after going through this unit you will able to analyse the financial position of different companies.

11.3 MEANING OF CASH FLOW STATEMENT

In a business organisation, hundreds and thousands of transactions are done every day. Out of those transactions some are executed on cash and some are executed on credit basis. Some transactions are executed on partial cash basis and the balance amount on credit basis. So at the end of each day, week, month, quarter or a year, the organisation is left with huge number of transactions. If the management wants to know the status of the cash and cash equivalents available in the organisation, then neither Profit and Loss Account nor Balance Sheet or any other statements of accounts servers the purpose. In this circumstance, Cash Flow Statement shows the cash and cash equivalents position of an organisation which includes cash transactions. In the preparation of balance sheet and income statement, accounting is done on accrual basis but in cash flow statement, accounting is done on cash basis. Moreover, Cash Flow Statement also shows the source of cash receipts and it also reveals the purposes for which payments are made.

Cash flow statement shows the movement of cash and cash equivalents from the business as well as into the business which results out of the business activities. Cash Flow Statement basically shows the cash inflows and cash out flows. When cash comes into the books of accounts in the organisation, then it is referred to as cash inflow. Similarly, when cash goes out from the books of accounts of the organisation, then it is referred to as cash outflow. The difference between the cash inflow and cash outflow is referred to as net cash flow. Cash Flow Statement explains the reasons for the changes in cash balance of a business between the two consecutive Balance Sheet dates.