GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY, DELHI

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

BBA 209: MANAGEMENT ACCOUNTING

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Unit – I

Management Accounting

Introduction

Management accounting can be viewed as Management-oriented Accounting. Basically it is the study of managerial aspect of financial accounting, "accounting in relation to management function". It shows how the accounting function can be re-oriented so as to fit it within the framework of management activity. The primary task of management accounting is, therefore, to

redesign the entire accounting system so that it may serve the operational needs of the firm. If furnishes definite accounting information, past, present or future, which may be used as a basis for management action. The financial data are so devised and systematically development that they become a unique tool for management decision.

Definitions of Management Accounting

According to ***Broad and Carmichael***, "Management Accounting covers all those services by which the accounting department can assist the top management and other departments in the formation of policy, control of execution and appreciation of effectiveness."

The Report of the ***Anglo-American Council of Productivity*** (1950) has also given a definition of management accounting, which has been widely accepted. According to it, "Management accounting is the presentation of accounting information in such a way as to assist the management in creation of policy and the day to day operation of an undertaking".

Nature of Management Accounting

The term management accounting is composed of 'management' and 'accounting'. The word 'management' here does not signify only the top management but the entire personnel charged with the authority and responsibility of operating an enterprise. The task of management accounting involves furnishing accounting information to the management, which may base its decisions on it. It is through management accounting that the management gets the tools for an analysis of its administrative action and can lay suitable stress on the possible alternatives in terms of costs, prices and profits, etc. but it should be understood that the accounting information

supplied to management is not the sole basis for managerial decisions. Management accounting has no set principles such as the double entry system of bookkeeping. Since management accounting is managerially oriented, its data is selective in nature. It focuses on potential opportunities rather than opportunities lost.

Functions of Management Accounting

The basic function of management accounting is to assist the management in performing its functions effectively. The functions of the management are planning, organizing, directing and controlling. Management accounting helps in the performance of each of these functions in the following ways:

(i) Provides data: Management accounting serves as a vital source of data for management planning. The accounts and documents are a repository of a vast quantity of data about the past progress of the enterprise, which are a must for making forecasts for the future.

(ii) Modifies data: The accounting data required for managerial decisions is properly compiled and classified. For example, purchase figures for different months may be classified to know total purchases made during each period product-wise, supplier-wise and territory-wise.

(iii) Analyses and interprets data: The accounting data is analyzed meaningfully for effective planning and decision-making. For this purpose the data is presented in a comparative form. Ratios are calculated and likely trends are projected.

(iv) Serves as a means of communicating: Management accounting provides a means of communicating management plans upward, downward and outward through the organization. Initially, it means identifying the feasibility and consistency of the various segments of the plan. At later stages it keeps all parties informed about the plans that have been agreed upon and their roles in these plans.

(v) Facilitates control: Management accounting helps in translating given objectives and strategy into specified goals for attainment by a specified time and secures effective accomplishment of these goals in an efficient manner. All this is made possible through budgetary control and standard costing which is an integral part of management accounting.

(vi)Uses qualitative information: Management accounting does not restrict itself to financial data for helping the management in decision making but also uses such information

which may not be capable of being measured in monetary terms. Such information may be collected form special surveys, statistical compilations, engineering records, etc.

Scope of Management Accounting

Management accounting is concerned with presentation of accounting information in the most useful way for the management. Its scope is, therefore, quite vast and includes within its fold almost all aspects of business operations. However, the following areas can rightly be identified as falling within the ambit of management accounting:

(i) Financial Accounting: Management accounting is mainly concerned with the rearrangement of the information provided by financial accounting. Hence, management cannot obtain full control and coordination of operations without a properly designed financial accounting system.

(ii) Cost Accounting: Standard costing, marginal costing, opportunity cost analysis, differential costing and other cost techniques play a useful role in operation and control of the business undertaking.

(iii) Revaluation Accounting: This is concerned with ensuring that capital is maintained intact in real terms and profit is calculated with this fact in mind.

(iv) Budgetary Control: This includes framing of budgets, comparison of actual performance with the budgeted performance, computation of variances, finding of their causes, etc**.**

(v) Inventory Control: It includes control over inventory from the time it is acquired till its final disposal.

(vi) Statistical Methods: Graphs, charts, pictorial presentation, index numbers and other statistical methods make the information more impressive and intelligible.

(vii) Interim Reporting: This includes preparation of monthly, quarterly, half-yearly income statements and the related reports, cash flow and funds flow statements, scrap reports, etc.

(viii) Taxation: This includes computation of income in accordance with the tax laws, filing of returns and making tax payments.

(ix) Office Services: This includes maintenance of proper data processing and other office management services, reporting on best use of mechanical and electronic devices.

(x) Internal Audit: Development of a suitable internal audit system for internal control.

The Management Accountant

Management Accounting provides significant economic and financial data to the management and the Management Accountant is the channel through which this information efficiently and effectively flows to the management. The Management Accountant has a very significant role to perform in the installation, development and functioning of an efficient and effective management information system. He designs the framework of the financial and cost control reports that provide each management level with the most useful data at the most appropriate time. He educates executives in the need for control information and ways of using it. This is because his position is unique with respect to information about the organization. Apart from top management no one in the organization perhaps knows more about the various functions of the organization than him. He is, therefore, sometimes described as the Chief Intelligence Officer of the top management. He gathers information, breaks it down, sifts it out and organizes it into meaningful categories. He separates relevant and irrelevant information and then ranks relevant information in an intelligible form to the management and sometimes also to those who are interested in the information in the information outside the company. He also compares the actual performance with the planned one and reports and interprets the results of operations to all
levels of management and to the owners of the business.

Thus, in brief, management accountant or controller is the person who designs the management information system for the organization, operates it by means of interlocked budgets, computes variances and exhorts others to institute corrective measures. Mr. P.L. Tandon has explained beautifully the position of the management accountant in the following words -

"The management accountant is exactly like the spokes in a wheel, connecting the rim of the wheel and the hub receiving the information. He processes the information and then returns the processed information back to where it came from".

Functions of Management Accountant

It is the duty of the management accountant to keep all levels of management informed of their real position. He has, therefore, varied functions to perform.

His important functions can be summarized as follows:

(i) Planning: He has to establish, coordinate and administer as an integral part of management, an adequate plan for the control of the operations. Such a plan would include profit planning, programmes of capital investment and financing, sales forecasts, expenses budgets and cost standards.

(ii) Controlling: He has to compare actual performance with operating plans and standards and to report and interpret the results of operations to all levels of management and the owners of the business. This is done through the compilation of appropriate accounting and statistical records and reports.

(iii) Coordinating: He consults all segments of management responsible for policy or action. Such consultation might concern any phase of the operation of the business having to do with attainment of objectives and the effectiveness of the organizational structures and policies.

(iv) Other functions:

- He administers tax policies and procedures.
- He supervises and coordinated the preparation of reports to governmental agencies.
- He ensures fiscal protection for the assets of the business through adequate internal control and proper insurance coverage.
- He carries out continuous appraisal economic and social forces and the government influences, and interprets their effect on the business.

It should be noted that the functions of a Management Accountant are more of those of a 'staff official'. He, in addition to processing historical data, supplies a good deal of information concerning the future operations in line with the management's needs. Besides serving top management with information concerning the company as a whole, he supplies detailed information to the line officers regarding alternative plans and their profitability, which help them in decision-making. As a matter of fact the Management Accountant should not bother himself regarding the decision taken by the line officials after tendering advice unless he has reasonable grounds to believe that such a decision is going to affect the interests of corporation adversely. In such an event also he should report it to the concerned level of management with

tact, firmness combined with politeness.

Management Accounting and Financial Accounting

Financial accounting and management accounting are closely interrelated since management accounting is to a large extent rearrangement of the data provided by financial accounting. Moreover, all accounting is financial in the sense that all accounting systems are in monetary terms and management is responsible for the contents of the financial accounting statements. In spite of such a close relationship between the two, there are certain fundamental differences. These differences can be laid down as follows:

(i) Objectives: Financial accounting is designed to supply information in the form of profit and loss account and balance sheet to external parties like shareholders, creditors, banks, investors and Government. Information is supplied periodically and is usually of such type in which management is not much interested. Management Accounting is designed principally for providing accounting information for internal use of the management. Thus, financial accounting is primarily an external reporting process while management accounting is primarily an internal reporting process.

(ii) Analyzing performance: Financial accounting portrays the position of business as a whole. The financial statements like income statement and balance sheet report on overall performance or statues of the business. On the other hand, management accounting directs its attention to the various divisions, departments of the business and reports about the profitability, performance, etc., of each of them. Financial accounting deals with the aggregates and, therefore, cannot

reveal what part of the management action is going wrong and why.

Management accounting provides detailed analytical data for these purposes.

(iii) Data used: Financial accounting is concerned with the monetary record of past events. It is a post-mortem analysis of past activity and, therefore, out the date for management action. Management accounting is accounting for future and, therefore, it supplies data both for present and future duly analyzed in detail in the 'management language' so that it becomes a base for management action.

(iv) Monetary measurement: In financial accounting only such economic events find place, which can be described in money. However, the management is equally interested in non-monetary economic events, viz., technical innovations, personnel in the organization, changes in

the value of money, etc. These events affect management's decision and, therefore,

management accounting cannot afford to ignore them.

For example, change in the value of money may not find a place in financial accounting on account of "going concern concept". But while affecting an insurance policy on an asset or providing for replacement of an asset, the management will have to take into account this factor.

(v) Periodicity of reporting: The period of reporting is much longer in financial accounting as compared to management accounting. The Income Statement and the Balance Sheet are usually prepared yearly or in some cases half-yearly. Management requires information at frequent intervals and, therefore, financial accounting fails to cater to the needs of the management. In management accounting there is more emphasis on furnishing information quickly and at comparatively short intervals as per the requirements of the management.

(vi) Precision: There is less emphasis on precision in case of management accounting as compared to financial accounting since the information is meant for internal consumption.

(vii) Nature: Financial accounting is more objective while management accounting is more subjective. This is because management accounting is fundamentally based on judgement rather than on measurement.

(viii) Legal compulsion: Financial accounting has more or less become compulsory for every business on account of the legal provisions of one or the other Act. However, a business is free to install or not to install system of management accounting.

The above points of difference between Financial Accounting and Management Accounting prove that Management Accounting has flexible approach as compared to rigid approach in the case of Financial Accounting. In brief, financial accounting simply shows how the business has moved in the past while management accounting shows how the business has to move in the future.

Cost Accounting and Management Accounting

Cost accounting is the process of accounting for costs. It embraces the accounting procedures relating to recording of all income and expenditure and the preparation of periodical statements and reports with the object of ascertaining and controlling costs. It is, thus, the formal mechanism by means of which the costs of products or services are ascertained and controlled. On the other hand, management accounting involves collecting, analyzing, interpreting and presenting all accounting information, which is useful to the management. It

is closely associated with management control, which comprises planning, executing, measuring and evaluating the

performance of an organization. Thus, management accounting draws heavily on cost data and other information derived from cost accounting.

Today cost accounting is generally indistinguishable from the so-called management accounting or internal accounting because it serves multiple purposes. However, management accounting can be distinguished from cost accounting in one important respect. Management accounting has a wider scope as compared to cost accounting. Cost accounting deals primarily with cost data while management accounting involves the considerations of both cost and revenue.

Management accounting is an all inclusive accounting information system, which covers financial accounting, cost accounting, and all aspects of financial management. But it is not a substitute for other accounting functions. It involves a continuous process of reporting cost, financial and other relevant data in an analytical and informative way to management. We should not be very much concerned with boundaries of cost accounting and management accounting since they are complementary in nature. In the absence of a suitable system of cost accounting, management accountant will not be in a position to have detailed cost information and his function is bound to lose significance. On the other hand, management accountant cannot effectively use the cost data unless it has been reported to him in a meaningful and informative form.

Limitations of Management Accounting

Management accounting, being comparatively a new discipline, suffers from certain limitations, which limit its effectiveness. These limitations are as follows:

1. **Limitations of basic records:** Management accounting derives its information from financial accounting, cost accounting and other records. The strength and weakness of the management accounting, therefore, depends upon the strength and weakness of these basic records. In other words, their limitations are also the limitations of management accounting.
2. **Persistent efforts**. The conclusions draws by the management accountant are not executed automatically. He has to convince people at all levels. In other words, he must be an efficient salesman in selling his ideas.

3. **Management accounting is only a tool:** Management accounting cannot replace the management. Management accountant is only an adviser to the management. The decision regarding implementing his advice is to be taken by the management. There is always a temptation to take an easy course of arriving at decision by intuition rather than going by the advice of the management accountant.
4. **Wide scope:** Management accounting has a very wide scope incorporating many disciplines. It considers both monetary as well as non-monetary factors. This all brings inexactness and subjectivity in the conclusions obtained through it.
5. **Top-heavy structure:** The installation of management accounting system requires heavy costs on account of an elaborate organization and numerous rules and regulations. It can, therefore, be adopted only by big concerns.
6. **Opposition to change:** Management accounting demands a break away from traditional accounting practices. It calls for a rearrangement of the personnel and their activities, which is generally not like by the people involved.
7. **Evolutionary stage:** Management accounting is still in its initial stage. It has, therefore, the same impediments as a new discipline will have, e.g., fluidity of concepts, raw techniques and imperfect analytical tools.

This all creates doubt about the very utility of management accounting.

Unit – 2

FINANCIAL STATEMENT ANALYSIS

INTRODUCTION

Financial statements are an important source of information for evaluating the performance and prospects of a firm. If properly analyzed and interpreted, financial statements can provide valuable insights into a firm's performance. Analysis of financial statements is of interest to lenders, investors, security analysts, managers, and others. Financial statement analysis may be done for a variety of purposes, which may range from a simple analysis of the short-term liquidity position of the firm to a comprehensive assessment of the strengths and weaknesses of the firm in various areas. It is helpful in assessing corporate excellence, judging creditworthiness, evaluating intrinsic value of equity shares, predicting bankruptcy, and assessing market risk.

FINANCIAL STATEMENTS

Managers, shareholders, creditors and other interested groups seek answers to the following questions about a firm: What is the financial position of firm at a given point of time? What have been the sources and uses of cash over a given period? To answer these questions, the accountant prepares two principal statements, the balance sheet and the profit and loss account.

1. **Balance Sheet**

The balance sheet shows the financial condition of a business at a given point of time. As per the Companies Act, the balance sheet of a company shall be in either the account (horizontal) form or the report (vertical) form. Exhibit 2.1 and 2.2 shows the balance sheet of ABC Limited as on March 31, 2013 cast in the account as well as the report form.

Exhibit 2.1 Account Form

Liabilities	Amount	Assets	Amount
Share capital		Fixed assets	
Reserves and surplus		Investments	
Secured Loans		Current assets, loans & advances	
Unsecured loans		Miscellaneous expenditure & losses	

Current liabilities & Provisions			

Exhibit 2.2 Report Form

I Sources of Funds

(1) Shareholders funds

(a) Share capital

(b) Reserves & surplus

(2) Loan funds

(a) Secured loans

(b) Unsecured loans

II Application of Funds

(1) Fixed assets

(2) Investments

(3) Current assets, loans and advances

Less: Current liabilities and provisions

Net current assets

(4) Miscellaneous expenditure and losses.

Liabilities: - Liabilities defined very broadly represent what the business entity owes others. The Companies Act classifies them as share capital, reserves and surplus, secured loans, unsecured loans, current liabilities and provisions -

Share Capital: This is divided into two types: equity capital and preference capital. The first represents the contribution of equity shareholders who are the owners to the firm. Equity capital, being risk capital, carries no fixed rate of dividend. Preference capital represents the contribution of preference shareholders and the dividend rate payable on it is fixed.

Reserves and Surplus: Reserves and surplus are profits, which have been retained in the firm. There are two types of reserves: revenue reserves and capital reserves. Revenue reserves represent accumulated retained earning from profits of normal business operations. These are held in various forms: general reserve, investment allowance reserve, capital redemption reserves, dividend equalization reserve, and so on. Capital reserves arise out gains, which are not related to normal business operations. Examples of such gains are the premium on issue of shares or gain on revaluation of assets.

Secured Loans: These are the borrowings of the firm against which specific collateral have been provided. The important components of secured loans are: debentures, loans from financial institutions, and loans from commercial banks.

Unsecured Loans: These are the borrowing of the firm against which no specific security has been provided. The major components of unsecured loans are: fixed deposits, loans and advances from promoters, inter-corporate borrowings, and unsecured loans from banks.

Current liabilities and Provisions: Current liabilities and provisions, as per the classification under the companies Act, consist of the amounts due to the suppliers of goods and services bought on credit, advance payments received, accrued expenses, unclaimed dividend, provisions for taxes, dividends, and so on. So defined, they include current liabilities and provisions as per the classification under the Companies Act plus loans (secured and unsecured) which are repayable within one year from the date of the balance sheet.

Assets: - Broadly speaking, assets represent resources, which are of some value to the firm. They have been acquired at a specific monetary cost by the firm for the conduct of its operations. Assets are classified under the Companies Act as fixed assets, investments, current assets, loans and advances, miscellaneous expenditure and losses.

Fixed Assets: These assets have two characteristics: they are acquired for use over relatively long periods for carrying on the operations of the firm and they are ordinarily not meant for resale. Examples of fixed assets are land, buildings, plant, machinery, patents, and copyrights.

Investments: These are financial securities owned by the firm. Some investments represent long-term commitment of funds (usually these are the equity shares of other firms held for income and control purposes). Other investments are likely to be short term in nature such as holdings of units in mutual fund schemes and may rightly be classified under current assets for managerial purposes.

Current Assets, Loans and Advances: This category consists of cash and other assets, which get converted into cash during the operating cycle of the fir. Current assets are held for a short period of time as against fixed assets, which are held for relatively longer periods. The major components of current assets are: cash, sundry debtors, inventories, loans and advances, and prepaid expenses.

Loans and advances are the amounts loaned to employees, advances given to suppliers and contractors, advance tax paid, and deposits made with governmental and other agencies.

Miscellaneous Expenditures and Losses: This category consists of two items: (i) miscellaneous expenditures and (ii) losses. Miscellaneous expenditures represent certain outlays such as preliminary expenses and developmental expenses, which have not been written off. From the accounting point of view, a loss represents a decrease in owners' equity. Hence, when a loss occurs, the owners' equity should be reduced by that amount. However, as per company law requirements, the share capital (representing owners' equity) cannot be reduced when a loss occurs. So the share capital is kept intact on the left hand side (the liabilities side) of the balance sheet and the loss is shown on the right hand side (the assets side) of the balance sheet.

Profit And Loss Account

The Companies Act has prescribed a standard form for the balance sheet, but none for the profit and loss account. However, the Companies Act does require that the information provided should be adequate to reflect a true and fair picture of the operations of the company for the accounting period. The profit and loss account, like the balance sheet, may be presented in the account form or the report form. Typically, companies employ 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 expense items are show and finally the net profit is given. While a single step profit and loss account aggregates all revenues and expenses, a multi-step profit and loss account provides disaggregated information. Further, instead of showing only the final profit measure, viz., the profit after tax figure, it presents profit measures at intermediate stages as well.

- Net sales
- Cost of goods sold
- Gross profit
- Operating expenses
- Operating profit
- Non-operating surplus/deficit
- Profit before interest and tax
- Interest
- Profit before tax
- Tax

- Profit after tax.

FINANCIAL STATEMENTS ANALYSIS

Financial Statements Analysis (FSA) refers to the process of the critical examination of the financial information contained in the financial statements in order to understand and make decisions regarding the operations of the firm. The FSA is basically a study of the relationship among various financial facts and figures is given in a set of financial statements. The basic financial statements i.e. the Balance Sheet and the Income Statement, already discussed in the preceding lesson contain a whole lot of historical data. The complex figures as given in these financial statements are dissected/broken up into simple and valuables elements and significant relationships are established between the elements of the same statement or different financial statements. This process of dissection, establishing relationships and interpretation thereof to understand the working and financial position of a firm is called the FSA.

Thus, FSA is the process of establishing and identifying the financial weaknesses and strength of the firm. It is indicative of two aspects of a firm i.e. the profitability and the financial position and it is what is known as the objectives of the FSA.

Objectives of the FSA

Broadly, the objective of the FSA is to understand the information contained in financial statements with a view to know the weaknesses and strength of the firm and to make a forecast about the future prospects of the firm and thereby enabling the financial analyst to take different decisions regarding the operations of the firm. The objectives of the FSA can be identified as:

- To assess the present profitability and operating efficiency of the firm as a whole as well as for its different departments and segments.
- To find out the relative importance of different components of the financial position of the firm.
- To identify the reasons for change in the profitability/financial position of the firm, and
- To assess the short term as well as the long term liquidity position of the firm.

Types of Financial Analysis

Financial analysis can be classified into different categories depending upon

(1) the material used, and (2) the modus operandi of analysis.

1. On the Basis of Material Used: Under this category the financial analysis can be of two types: a) External Analysis; b) Internal Analysis

a. External Analysis: The outsiders to the business carry out this kind of analysis, which includes investors, credit agencies, government agencies and other creditors who have no access to the internal records of the company. In the recent times this analysis has gathered momentum towards better corporate governance and government regulations for more detailed disclosure of information by the companies in their financial statements.

b. Internal Analysis: In contrary to the above this analysis is done by those who have access to the books of accounts and other information related to the business. The analysis is done depending upon the objective to be achieved through this analysis.

2. On the basis of Modus Operandi: In this case too, the financial analysis can be of two types: a) Horizontal Analysis; b) Vertical Analysis

A **Horizontal Analysis:** Under this financial statements for a number of years are reviewed and analyzed. The current year's figures are compared with standard or base year.

B **Vertical Analysis:** Under this type of analysis a study is made of the quantitative relationship of the various items in financial statements on a particular date. For example, the ratios of different items of costs for a particular period may be calculated with the sales for that period. These types of financial analysis are useful in comparing the performance of several companies in the same group, or divisions or departments in the same company.

In addition to above, the FSA for a firm can be undertaken in different ways. There is 'the best' technique of the FSA, which can be applied to all the firms under all the situations. The type of the FSA undertaken depends upon the person doing the FSA and the purpose of which the FSA has been undertaken. Different person/parties may undertake the FSA for different purposes. The persons/parties, who are usually interested in the FSA, may be the shareholders, the creditors, the financial institutions, the investors and the management itself. The FSA can be classified into different categories as follows:

a) Internal and External FSA b) Dynamic and Static FSA

a) Internal and External FSA: The FSA is said to be internal when it is done by a person who has access to the books of the account and other related information of the firm. This type of FSA is conducted for measuring the operational and managerial efficiency at different hierarchy levels of the firm. This type of analysis is quite comprehensive and reliable. In

order to undertake internal FSA, either an employee of the same firm or an outside agency may be entrusted the responsibility. External FSA, on the other hand, is one, which is conducted by an outsider without having any access to the basic accounting record of the firm. These outsiders may be the creditors, the investors, the shareholders, the credit rating agencies etc. The external FSA is dependent on the published financial data of the firm and consequently can serve only limited purpose.

b) Dynamic and Static FSA: The FSA is said to be dynamic if it covers a period of several years. Financial data/information for different years is incorporated in the FSA to assess the progress of the firm. This type of FSA is also called the horizontal analysis. The dynamic FSA is useful for long-term trend analysis and planning. In dynamic FSA, the figures/data for a year are placed and compared with the figures/data for several other years and changes from 1 year to another are identified. Since, the dynamic analysis covers a period of more than 1 year (may be up to 5 or 10 years), is given a considerable insight into areas of financial weaknesses and strength of the firm. On the other hand, the static FSA covers a period of 1 year only and the analysis is made on the basis of only one set of financial statements.

So, it is study in terms of information at a particular date only. It is also called vertical FSA. Impliedly, the static FSA fails to incorporate the periodic changes and therefore, may not be very conducive to a proper understanding of the financial position of the firm. It may be noted that both the dynamic and static FSA should be conducted simultaneously as both are indispensable for understanding the profitability and financial position of the firm.

On the basis of the above discussion, it can be said that FSA investigative and thought provoking process in nature. The basic objective of FSA is financial planning and forecasting on the basis of meaningful interpretation of the financial information. It is forward looking exercise. Since, decisions are going to be taken on the basis of the FSA, the analyst must be careful, precise, analytical, objective and intelligent enough to undertake the FSA in a systematic way.

METHODICAL PRESENTATION TO FSA

The financial statements usually present the financial data in a traditional form. However, in order to make meaningful and convenient analysis, the presentation of data may be modified and suitably rearranged. In the modified form, the items of a statement are presented in a vertical form and in a particular sequence only. However, it must be noted that this modified

form of the financial statements is only a matter of convenience and not a compulsory requirement and therefore, there is no standard form of methodical presentation. The FSA can be undertaken even without such modification but not so conveniently. In methodical presentation, the financial information can be presented even side by side for inter-firm comparison or for dynamic FSA. A set of methodical presentation of the Income Statement and the B/S are given in the Table 2.1 and 2.2 respectively.

Table: Income Statement (Methodical presentation).

INCOME STATEMENT FOR THE YEAR ENDING.....

	Amount	**Amount**
Sales -		
Cash sales	*****	
Credit sales	*****	
Less: Sales return	*****	
Net sales (1)		*****
Less: Cost of good sold:		
Opening stock	*****	
+ Purchases	*****	
+Manufacturing expenses	*****	
+ Direct expenses	*****	
- Closing stock	*****	
Total cost of goods sold (2)	*****	*****
Gross Profit (3)		*****
Less: Operating expenses: (4)		
Selling expenses	*****	
Administrative expenses	*****	
Depreciation	*****	*****
Operating profit (5)		*****
Add: Non Operating Income		*****
Less: Non Operating Expenses		*****
Profit before Interest & Taxes (6)		*****
Less : Interest Charges: (7)		
Interest on Loans	*****	
Interest on Debenture	*****	*****
Profit before tax (6-7) (8)		*****
Less: Provision for tax (9)		*****
Net Profit (10)		*****

Table: The balance Sheet (Methodical presentation)

BALANCE SHEET AS ON.....

	Amount	**Amount**
Preference Share Capital	*****	
Equity Share Capital	*****	
Total Share Capital (1)	*****	*****

Add: Capital Reserve	*****	
General Reserve	*****	
Share Premium A/c	*****	
Capital Redemption Reserve A/c	*****	
Profit & Loss A/c	*****	*****
Less: Preliminary Expenses	*****	
Accumulated Losses	*****	*****
Shareholders Fund (2)		*****
Add: Long Term Loans	*****	
Debentures	*****	*****
Capital Employed (3)		*****
Represented by:		
Fixed Assets		
Land & Building	*****	
Plant & Machinery	*****	
Furniture & Fixture	*****	
Gross Block	*****	
Less : Depreciation	*****	
Fixed Assets (Net) (4)		*****
Working Capital		
Cash and Bank	*****	
Receivable	*****	
Marketable Securities	*****	
Liquid Assets (5)		*****
+ Inventories		*****
Total Current Assets (6)		*****
Trade Creditors	*****	
Bills Payable	*****	
Expenses Outstanding	*****	
Provision for Tax	*****	
Quick Liabilities (7)		*****
+ Bank Overdraft		*****
Total Current Liabilities (8)		*****
Net Working Capital (6-8) (9)		*****
Total Assets (4+9) (10)		*****

TECHNIQUES/TOOLS OF THE FSA

As already discussed, that the FSA can be undertaken by different persons and for different purposes, therefore, the methodology adopted for the FSA may be varying from the one situation to another. However, the following are some of the common techniques of the FSA: a) Comparative financial statements. (b) Common-size financial statements, (c) Trend percentages analysis, and (d) Ration Analysis. The last techniques i.e. the ration analysis is the most common, comprehensive and powerful tool of the FSA. For the sake of proper understanding, all these techniques have been discussed in detail as follows:

COMPARATIVE FINANCIAL STATEMENTS (CFS)

In CFS, two or more BS and/or the IS of a firm are presented simultaneously in columnar form. The financial data for two or more years are placed and presented in adjacent columns and thereby the financial data is provided a times perspective in order to facilitate periodic comparison. In CFS, the BS and the IS for number of years are presented in condensed form for year-to-year comparison and to exhibit the magnitude and direction of changes.

The preparation of the CFS is based on the premise that a statement covering a period of a number of years is more meaningful and significant than for a single year only, and that the financial statements for one period represent only 1 phase of the long and continuous history of the firm. Nowadays, most of the published Annual Reports of the companies provide important statistical information about the company in condensed from for the last so many years. The presentation of such data enhances the usefulness of these reports and brings out more clearly the nature and trends of changes affecting the profitability and financial position of the firm.

So, the CFS helps a financial analyst in horizontal analysis of the firm and in establishing operating and positional trend of the firm. The CFS may be prepared to show the absolute amount of different items in monetary terms, the amount of periodic changes in monetary terms and the percentages of periodic changes to reveal the proportionate changes. The CFS can be prepared for both the BS and IS.

Comparative Income Statement (CIS): A CIS shows the figures of different items of the ISs of the firm in absolute terms, the absolute changes from one period to another and if desired, the changes in percentage form. The CIS is helpful in deriving meaningful conclusions regarding changes in sales volume, cost of goods sold, different expense items etc. From the CIS a financial analyst can quickly ascertain whether sales are increasing or decreasing and by how much amount or by how much percentage. Similarly, analysis can be made for other items also.

Comparative Balance Sheet (CBS): The CBS shows the different assets and liabilities of the firm on different dates to make comparisons of absolute balances and also of changes if any, from one date to another. The CBS may be helpful in analyzing and evaluating the financial position of the firm over a period of number of years. The preparation of CFS can be explained with the help of Example 2.1.

Example 2.1: Following are the IS and BS of ABC & Co. for the year 2003 and 2004, Prepare the CBS and CIS for these two years.

Income Statements for the year 2003 and 2004

(Figures in Rs.)

To Cost of good sold	300000	375000	By Net Sales	400000	500000
To General Expenses	10000	10000			
To Selling Expenses	15000	20000			
To Net Profit	75000	95000			
	400000	500000		400000	500000

Balance Sheets as on December 31

(Figures in Rs.)

Liabilities	**2003**	**2004**	**Assets**	**2003**	**2004**
Capital	350000	350000	Land	50000	50000
Reserves	100000	122500	Building	150000	135000
Secured Loans	50000	75000	Plant	150000	135000
Creditors	100000	137000	Furniture	50000	70000
Outstanding Exp	50000	75000	Cash	50000	70000
			Debtors	100000	150000
			Stores	100000	150000
	650000	760000		650000	760000

Solution:

COMPARATIVE INCOME STATEMENT

FOR THE YEARS ENDING 2003 AND 2004

(Figures in Rs.)

Liabilities	**2003**	**2004**	**Change in 2004**	**% change in 2004**
Net Sales	400000	500000	100000	+ 25
Less COGS	300000	375000	75000	+ 25
Gross Profit (1)	100000	125000	25000	+ 25
Less General	10000	10000	---------	--------

Selling Expenses	15000	20000	5000	+ 33.3
Total Expenses (2)	25000	30000	5000	+ 20
Net Profit (1-2)	75000	95000	20000	+ 26.7

COMPARATIVE BALANCE SHEET AS ON DEC. 31, 2004

(Figures in Rs.)

Liabilities	**2003**	**2004**	**Change in 2004**	**% change in 2004**
Land	50000	50000	----	----
Building	150000	135000	- 15000	- 10
Plant	150000	135000	-15000	- 10
Furniture	50000	70000	20000	+ 40
Total F. assets (1)	400000	390000	-10000	- 2.5
Cash	50000	70000	20000	40
Debtors	100000	150000	50000	50
Stock	100000	150000	50000	50
Total C. Assets (2)	250000	370000	120000	48
Creditors	100000	137500	37500	37.5
O/s Expenses	50000	75000	25000	50
Total C. Liabilities (3)	150000	212500	62500	41.7
Working Capital (2 - 3)	100000	157500	57500	57.5
Capital	350000	350000	-------	------
Reserves	100000	122500	22500	22.5
Proprietor's Fund (4)	450000	472500	22500	5
Secured Loans (5)	50000	75000	25000	50
Capital Employed (4+5)	500000	547500	47500	9.5
Total Assets (1+2)	650000	760000	110000	16.9
Capital + Total Liabilities (3+4+5)	650000	760000	110000	16.9

Interpretation: On the basis of CIS it can be said that Gross Profit for the year 2004 has increased by 25% over the profit for the year 2003. The Net Sales during the same period has increased by 25%, which was coupled with increase in the cost of goods sold which also increased by same 25%. This means that Input/ Output ratio or the production efficiency level has been maintained during 2004. the same increase of 25% in Net Sales and the Cost of goods sold has resulted in increase in Gross Profit by 25%. The increase in Net Profit is more pronounced i.e. by 26.7%. The reason for a higher increase in Net Profit is the comparatively less increase in total expenses (only 20%). The General Expenses during 2003 and 2004 were same but the increase in Selling Expenses by 33 1/3% has resulted increase of total expenses by 20%. The CBS also reveals many facts about the composition of assets and the financial structure of the firm. The Fixed Assets have decreased over the period by 2.5%, though this decrease has primarily resulted by the amount of depreciation @ 10% on Buildings and Plant. However, the Current Assets have increased by 48%, this increase of 48% is too much in view of increase in Net Sales by 25% only. Moreover, the Current Liabilities have increased by 41.7%. Since the increase in Current Assets is more than increase is Current Liabilities, therefore the Net Working Capital has increased by 57.5%. The clearly indicates that the Working Capital of the firm is not properly managed. Had the increase in current assets restricted to 25% or the increase in current liabilities was also achieved at 48% or so, then the situation would not have been so alarming. However, the decrease in fixed assets has been offset by increase in Net Working Capital and consequently the total assets have increased by 16.9%. The firm has not raised any capital during the period and the increase in proprietor's funds has resulted because of increase in retained profits by Rs. 22,500. The Secured Loans have also increased by 50%. The funds provided by the retained earnings and the secured loans seem to have been utilized in financing the current assets. This has, on one hand increased the short term paying capacity of the firm and on the other hand, will affect the earning capacity of the firm as the current assets are less or non productive. So, the CFS explains about the changes in different items of the financial statements. However, despite this revelation, the CFS fails to highlight the component changes in relation to total assets or total liabilities. The CFS does not throw light on the variations in each asset as a percentage of total assets for a particular period or changes in different liabilities in relation to total liabilities for that period etc. This drawback of CFS is taken care of by the Common Size Statement.

COMMON SIZE STATEMENT (CSS)

The CSS represents the relationship of different items of a financial statement with some Common item by expressing each item as a percentage of the Common item. In Common size Balance Sheet, each item of the Balance Sheet is stated as a percentage of the total of the Balance Sheet. Similarly in Common size Income Statement, each item is stated as percentage of the Net Sales. The percentages for different items are computed by dividing the absolute amount of that item by the Common base (i.e. the Balance Sheet Total or the Net Sales as the case may be) and then multiplying by 100. The percentage so calculated can be easily compared with the corresponding percentages in some other period. Thus, the CSS is useful not only in intra-firm comparisons over a series of different year but also in making inter-firm comparisons for the same year or for several years. The procedure and the technique of preparation of the CSS can be explained with the help of Example 2.2.

Example 2.2. With the use of data given in the Example 2.1 prepare the Common Size BS and Common Size IS for the years 2003 & 2004.

Solution:

COMMON SIZE BALANCE SHEET

	Amount (Rs.)		**%**	
Liabilities	**2003**	**2004**	**2003**	**2004**
Land	50000	50000	7.70	6.59
Building	150000	135000	23.07	17.76
Plant	150000	135000	23.07	17.76
Furniture	50000	70000	7.70	9.21
Total Fixed Assets (1)	400000	390000	61.54	51.32
Cash	50000	70000	7.70	9.20
Debtors	100000	150000	15.38	19.74
Stock	100000	150000	15.38	19.74
Total C. Assets (2)	250000	370000	38.46	48.68
Total Assets (1+2)	650000	760000	100	100
Capital	350000	350000	53.85	46.05
Reserves	100000	122500	15.38	16.12
Proprietor's Fund (3)	450000	472500	69.23	62.17
Secured Loan	50000	75000	7.70	9.87
Creditor	100000	137500	15.37	18.09
O/s Expenses	50000	75000	7.70	9.87
Total Liabilities (4)	200000	287500	30.77	37.83
Total Capital + Liabilities (3+4)	650000	760000	100	100

Interpretation: The Common size BS and the Common Size IS reveal that proportion of fixed assets out of total assets has reduced from 61.54% to 51.32% whereas the proportion of reliance of the firm on the current assets. Similarly, out the total liabilities the proportion of the proprietor's funds has reduced from 69.23% to 62.17% and the proportion of external liabilities has increased from 30.77% to 37.83%. Since, no new capital has been issued and the other liabilities have increased, the proportion of capital in the total financing of the firm has gone down from 53.85% to 46.05%.

TREND PERCENTAGE ANALYSIS (TPA)

The TPA is a technique of studying several financial statements over a series of years. In TPA, the trend percentages are calculated for each item by taking the figure of that item for some base year as 100. So, the trend percentage is the percentage relationship, which each item of different years bears to the same item in the base year. Any year may be taken as the base year. Any year may be taken as the base year, but generally the starting/initial year is taken as the base year. So, each item for base year is taken as 100 and then the same item for other years is expressed as a percentage of the base year.

TPA is an important tool of historical analysis. It can be of immense help in making a comparative analysis over a series of years. The TPA provides brevity and easy readability to several financial statements as the percentages figures disclose more than the absolute figures. However, some precautions must be taken while using the TPA as a technique of the AFS as follows:

There should not be a significant and material change in accounting policies over the years. This consistency is necessary to ensure meaningful comparability.

- Proper care must be taken while selecting the base year. It must be a normal and a representative year. Generally the initial year is taken as base year, but intervening year can also be taken as the base year, if the initial year is not found to be normal year.
- The trend percentages should be analyzed vis-à-vis the absolute figure to avoid any misleading conclusions.
- If possible, the figures for different year should be adjusted for variations in price level also. For example, increase in Net Sales by 30% (from 100 in 2001 to 130 in 2004) over 3

years might have resulted primarily because of increase in selling price and not because of increase in volume.

Quite often, it may be difficult to interpret the increase or decrease in any item (in absolute terms or in percentages terms) as a desirable change or an undesirable change.

RATIO ANALYSIS (RA)

The RA has emerged as the principal technique of the FSA. A ratio is a relationship expressed in mathematical terms between two individual and groups of figures connected with each other in some logical manner. The RA is based on the premise that a single accounting figure by itself may not communicate any meaningful information but when expressed as a relative to some other figure, it may definitely give some significant information. The relationship between two or more accounting figures/groups is called a financial ratio. A financial ratio helps to summarize a large mass of financial data into a concise form and to make meaningful interpretations and conclusions about the performance and positions of a firm.

E.g., A firm having Net Sales of Rs.5,00,000 is making a gross profit of Rs.1,00,000. It means that the ratio of Gross Profit to Net Sales is 20% i.e. (Rs.1,00,000 /Rs.5,00,000) x 100.

Steps in Ratio Analysis: The RA requires two steps as follows:

- Comparing the ratio with some predetermined standard. The standard ratio may be the past ratio of the same firm or industry's average ratio or a projected ratio or the ratio of the most successful firm in the industry.
- Calculation of a ratio (as discussed later), and

In interpreting the ratio is compared with some predetermined standard. The importance of a correct standard is obvious as the conclusion is going to be based on the standard itself.

Types of comparisons: As already stated that the RA comprised of two steps i.e. the calculation and thereafter the comparison with some standard. The calculation part (as discussed later) of a ratio merely involves the application of a formula to the given financial data to establish the mathematical relationship. The comparison is the next steps. The ratio can be compared in three different ways.

Cross-Section Analysis: One way of comparing the ratio or ratios of a firm is to compare them with the ratio or ratios of some other selected firm in the same industry at the same point of time. So, it involves the comparison of two or more firm's financial ratios at the same

point of time. The Cross-Section Analysis helps the analyst to find out as to how a particular firm has performed in relation to it competitors. The firm's performance may be compare with the performance of the leader in the industry in order to uncover the major operational inefficiencies. In this type of an analysis, the comparison with a standard helps to find out the quantum as well as direction of deviation from the standard. It is necessary to look for the large deviations on either side of the standard could mean a major concern for attention. The Cross-Section Analysis is easy to be undertaken as most of the data required for this may be available in financial statements of the firm.

Time-Series Analysis: The analysis is called Time-Series Analysis when the performance of a firm is evaluated over a period of time. By comparing the present performance of a firm with the performance of the same firm over last few years, an assessment can be made about the trend in progress of the firm, about the direction of progress of the fir. The information generated by the Time-Series Analysis can also help the firm to assess whether the firm is approaching long term goals or not. The Time-Series Analysis can be extended to cover projected financial statements. In particular, the Time Series Analysis looks for (i) Important trends in financial performance, (ii) Shift in trend over the years, and (iii) Significant deviations if any, from other set of data.

Combined Analysis: If the Cross-Section and Time Series Analyses, both are combined together to study the behavior and pattern of ratios, then meaningful and comprehensive evaluation of the performance of the firm can definitely be made. A trend of ratios of a firm compared with the trends of the ratios of the standard firm can give good results.

RATIO ANALYSIS

Ratio analysis is one of the oldest methods of financial statements analysis. It was developed by banks and other lenders to help them chose amongst competing companies asking for their credit. Two sets of financial statements can be difficult to compare. The effect of time, of being in different industries and having different styles of conducting business can make it almost impossible to come up with a conclusion as to which company is a better investment. Ratio analysis helps creditors solve these issues.

What are Financial Ratios?

- **Shortcut:** Financial ratios provide a sort of heuristic or thumb rule that investors can apply to understand the true financial position of a company. There are recommended values that specific ratios must fall within. Whereas in other cases, the values for comparison are derived from other companies or the same companies own previous records. However, instead of undertaking a complete tedious analysis, financial ratios helps investors shortlist companies that meet their criteria.
- **Sneak-Peek:** Investors have limited data to make their decisions with. They do not know what the state of affairs of the company truly is. The financial statements provide the window for them to look at the internal operations of the company. Financial ratios make financial analysis simpler. They also help investors compare the relationships between various income statement and balance sheet items, providing them with a sneak peek of what truly is happening behind the scenes in the company.
- **Connecting the Dots:** Over the years investors have realized that financial ratios have incredible power in revealing the true state of affairs of a company. Analyses like the DuPont Analysis have brought to the forefront the inter-relationship between ratios and how they help a company become more profitable.

They fall into many categories and if variations are included there are hundreds of types of ratios that are common in practice. However, all the ratios are not used by everyone on a regular basis. There are some ratios which are more important to some user groups than they are to other user groups. This article explains why this is the case:

Management: Turnover and Operating Performance Ratios

The management of the company may not be so concerned with the results. They are usually more interested in the cause. This is because while other classes of stakeholders do not have control over the working of the firm i.e. the cause, the management does. All the other stakeholders question the management at the annual general meeting. Hence, management tries to get as much insight into the ratios as possible. They create operating performance ratios and compare it to their previous performance and to the performance of others to learn from the past as well as to be able to give satisfactory answers to the investors.

Shareholders: Profitability

Shareholders, for obvious reasons, are most concerned about profitability. Their investments are at risk and they expect to gain the maximum. Investors scrutinize profitability numbers and pounce upon the slightest signs of mismanagement. For the shareholders, the profitability ratios are the beginning point. They then follow the trail the ratios leave. However over the past two decades the focus has been steadily shifting towards cash flow ratios.

Debt holders and Suppliers: Cash Flow and Liquidity

Debt holders and suppliers are concerned whether they will be paid the amount promised to them at the date that was promised to them. It is for this reason that they are very concerned about the liquidity of the firm. Slightest signs of liquidity issues are met with supply cutbacks from suppliers.

Credit Rating Agencies: Solvency

While debt holders are suppliers are concerned about short term liquidity and cash flow, credit rating agencies go a step ahead. They use solvency ratios to rigorously analyze whether the company will be able to make good its obligations in the long run.

Ratio analysis, without a doubt, is amongst the most powerful tools of financial analysis. Any investor, who wants to be more efficient at their job, must devote more time towards understanding ratios and ratio analysis. However, this does not mean that it is free of limitations.

ADVANTAGES OF RATIO ANALYSIS

Ratio analysis is necessary to establish the relationship between two accounting figures to highlight the significant information to the management or users who can analyze the business situation and to monitor their performance in a meaningful way. The following are the advantages of ratio analysis:

1. It facilitates the accounting information to be summarized and simplified in a required form.
2. It highlights the inter-relationship between the facts and figures of various segments of business.
3. Ratio analysis helps to remove all type of wastages and inefficiencies.
4. It provides necessary information to the management to take prompt decision relating to business.
5. It helps to the management for effectively discharge its functions such as planning, organizing, controlling, directing and forecasting.
6. Ratio analysis reveals profitable and unprofitable activities. Thus, the management is able to concentrate on unprofitable activities and consider to improve the efficiency.
7. Ratio analysis is used as a measuring rod for effective control of performance of business activities.
8. Ratios are an effective means of communication and informing about financial soundness made by the business concern to the proprietors, investors, creditors and other parties.
9. Ratio analysis is an effective tool which is used for measuring the operating results of the enterprises.
10. It facilitates control over the operation as well as resources of the business.
11. Effective co-operation can be achieved through ratio analysis.
12. Ratio analysis provides all assistance to the management to fix responsibilities.
13. Ratio analysis helps to determine the performance of liquidity, profitability and solvency position of the business concern

LIMITATIONS OF RATIO ANALYSIS

1) **Misleading Financial Statements -** The first and foremost threat to ratio analysis is deliberate misleading statements issued by the management. The management of most companies is aware that investors look at certain numbers like sales, earnings, cash flow etc very seriously. Other numbers on the financial statements do not get such attention. They therefore manipulate the numbers within the legal framework to make important metrics look good. This is a common practice amongst publically listed companies and is called "Window Dressing". Investors need to be aware of such window dressing and must be careful in calculating and interpreting ratios based on these numbers.

2) **Incomparability -** Comparison is the crux of ratio analysis. Once ratios have been calculated, they need to be compared with other companies or over time. However, many times companies have accounting policies that do not match with each other. This makes it impossible to have any meaningful ratio analysis. Regulators all over the world are striving to make financial statements standardized. However in many cases, companies can still choose accounting policies which will make their statements incomparable.
3) **Qualitative Factors -** Comparison over time is another important technique used in ratio analysis. It is called horizontal analysis. However, many times comparison over time is meaningless because of inflation. Two companies may be using the same machine with the same efficiency but one will have a better ratio because it bought the machine earlier at a low price. Also, since the machine was purchased earlier, it may be closer to impairment. But the ratio does not reflect this.
4) **Subjective Interpretation -** Financial ratios are established "thumb of rules" about the way a business should operate. However some of these rules of thumb have become obsolete. Therefore when companies come with a new kind of business model, ratios show that the company is not a good investment. In reality the company is just "unconventional". Many may even call these companies innovative. Ratio analysis of such companies does not provide meaningful information. Investors must look further to make their decisions.

CLASSIFICATION OF RATIO ANALYSIS

Accounting Ratios are classified on the basis of the different parties interested in making use of the ratios. A very large number of accounting ratios are used for the purpose of determining the financial position of a concern for different purposes. Ratios may be broadly classified in to:

(1) Classification of Ratios on the basis of Balance Sheet.

(2) Classification of Ratios on the basis of Profit and Loss Account.

(3) Classification of Ratios on basis of Mixed Statement (Balance Sheet & Profit & Loss A/c)

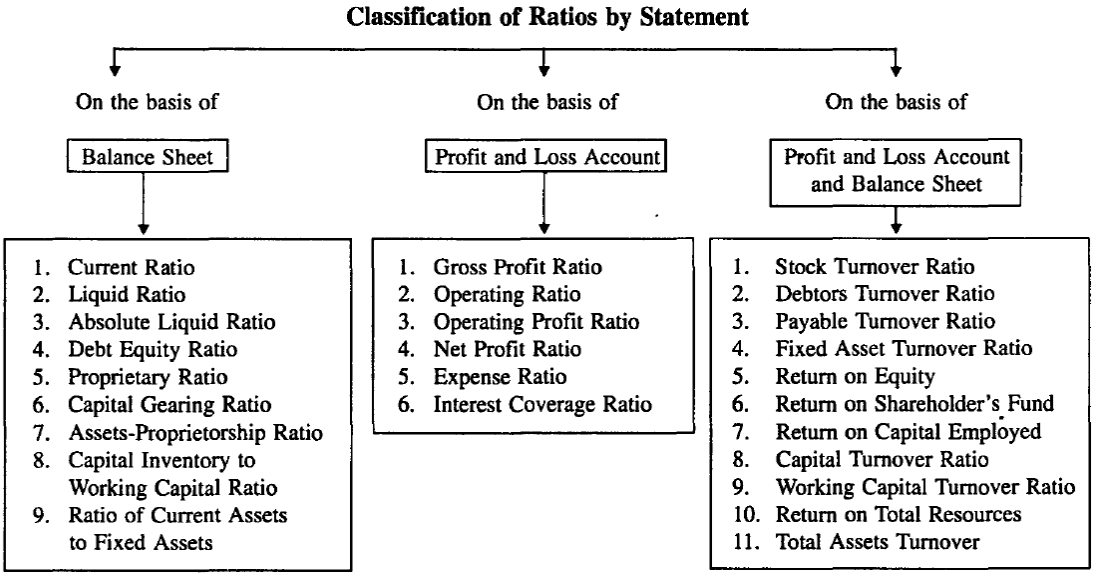
This classification further grouped in to:

I. Liquidity Ratios
II. Profitability Ratios
III. Turnover Ratios

IV. Solvency Ratios

IV. Over all Profitability Ratios

1. Classification of Ratios on the basis of Balance Sheet: Balance sheet ratios which establish the relationship between two balance sheet items. For example- Current Ratio, Fixed Asset Ratio, Capital Gearing Ratio and Liquidity Ratio etc.
2. Classification on the basis of Income Statements: These ratios deal with the relationship between two items or two group of items of the income statement or profit and loss account. For example- Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, and Net Profit Ratio etc.
3. Classification on the basis of Mixed Statements: These ratios also known as Composite or Mixed Ratios or Inter Statement Ratios. The inter statement ratios which deal with relationship between the item of profit and loss account and item of balance sheet. For example, Return on Investment Ratio, Net Profit to Total Asset Ratio, Creditor's Turnover Ratio, Earning Per Share Ratio and Price Earning Ratio etc.



I. LIQUIDITY RATIOS

Liquidity Ratios are also termed as Short-Term Solvency Ratios. The term liquidity means the extent of quick convertibility of assets in to money for paying obligation of short-term nature. Accordingly, liquidity ratios are useful in obtaining an indication of a firm's ability to meet its current liabilities, but it does not reveal how effectively the cash resources can be managed. To measure the liquidity of a firm, the following ratios are commonly used:

(1) Current Ratio.

(2) Quick Ratio (or) Acid Test or Liquid Ratio.

(3) Absolute Liquid Ratio (or) Cash Position Ratio.

(1) Current Ratio –

Current Ratio establishes the relationship between current Assets and current Liabilities. It attempts to measure the ability of a firm to meet its current obligations. In order to compute this ratio, the following formula is used:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The two basic components of this ratio are current assets and current liabilities. Current asset normally means assets which can be easily converted in to cash within a year's time. On the other hand, current liabilities represent those liabilities which are payable within a year.

Interpretation of Current Ratio: The ideal current ratio is 2: 1. It indicates that current assets double the current liabilities are considered to be satisfactory.

Illustration: 1

The following information relates to Mishra & Co. for the year 2003, calculate current ratio:

Current Assets	Rs. 5,00,000
Current Liabilities	Rs. 2,00,000

Solution:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$= \frac{5,00,000}{2,00,000} = 2.5 \text{ (or) } 2.5 : 1$$

The current ratio of 2.5 means that current assets are 2.5 times of current liabilities.

(2) Quick Ratio or Acid Test or Liquid Ratio -

Quick Ratio also termed as Acid Test or Liquid Ratio. It is supplementary to the current ratio. The acid test ratio is a more severe and stringent test of a firm's ability to pay its short-term obligations 'as and when they become due. Quick Ratio establishes the relationship between the quick assets and current liabilities. In order to compute this ratio, the below presented formula is used:

Liquid Assets = (Current Assets - Stock and Prepaid Expenses)

Liquid Ratio = Quick Assets/ Current Liabilities

Quick Ratio can be calculated by two basic components of quick assets and current liabilities.

Quick Assets = Current Assets - (Inventories + Prepaid expenses)

Current liabilities represent those liabilities which are payable within a year.

The ideal Quick Ratio of 1: 1 is considered to be satisfactory. High Acid Test Ratio is an indication that the firm has relatively better position to meet its current obligation in time. On the other hand, a low quick ratio exhibiting that the firm's liquidity position is not good.

(3) Absolute Liquid Ratio

Absolute Liquid Ratio is also called as Cash Position Ratio or Over Due Liability Ratio. This ratio established the relationship between the absolute liquid assets and current ~iabilities. Absolute Liquid Assets include cash in hand, cash at bank, and marketable securities or temporary investments. The optimum value for this ratio should be one, i.e., 1: 2. It indicates that 50% worth absolute liquid assets are considered adequate to pay the 100% worth current liabilities in time. If the ratio is relatively lower than one, it represents that the company's day-to-day cash management is poor. If the ratio is considerably more than one, the absolute liquid ratio represents enough funds in the form of cash to meet its short-term obligations in time. The Absolute Liquid Ratio can be calculated by dividing the total of the Absolute Liquid Assets by Total Current Liabilities. Thus,

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

Illustration: 6

Given:

Current Ratio = 2.6

Liquid Ratio = 1.4

Working Capital = Rs. 1,10,000

Calculate: (I) Current Assets (2) Current Liabilities (3) Liquid Assets and (4) Stock.

Solution:

Calculation of current assets and current liabilities:

Working Capital = Current Assets - Current Liabilities

Current Ratio = Current Assets: Current Liabilities

(or) = 2.6:1

Current Assets = 2.6 Current Liabilities

Working Capital = Current Assets - Current Liabilities

= 2.6 CL – CL = 1.6CL

Thus, 1.6 CL = 1,10,000

CL = 1,10,000/1.6 = **Rs. 68,750**

CA = 2.6*68,750 = **Rs. 1,78,750**

(3) Calculation of Liquid Assets:

Liquid Ratio (Given) = 1.4

Liquid Ratio = Liquid Assets/ Current Liabilities

Thus, liquid Assets = 68,750*1.4 =**Rs. 96,250**

(4) Calculation of Stock:

Liquid Assets = Current Assets - (Stock + Prepaid Expenses)

Stock = Current Assets - Liquid Assets

= Rs. 1,78.750 - Rs. 96,250

= Rs.82,500

II. PROFITABILITY RATIOS

The term profitability means the profit earning capacity of any business activity. Thus, profit earning may be judged on the volume of profit margin of any activity and is calculated by subtracting costs from the total revenue accruing to a firm during a particular period. Profitability Ratio is used to measure the overall efficiency or performance of a business. Generally, a large number of ratios can also be used for determining the profitability as the same is related to sales or investments.

The following important profitability ratios are discussed below:

1. Gross Profit Ratio.
2. Operating Ratio.
3. Operating Profit Ratio.
4. Net Profit Ratio.
5. Return on Investment Ratio.
6. Return on Capital Employed Ratio.
7. Earning Per Share Ratio.

8. Dividend Payout Ratio.

9. Dividend Yield Ratio.

lO. Price Earning Ratio.

11. Net Profit to Net Worth Ratio.

(1) Gross Profit Ratio

Gross Profit Ratio established the relationship between gross profit and net sales. This ratio is calculated by dividing the Gross Profit by Sales. It is usually indicated as percentage.

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

Gross Profit = Sales - Cost of Goods Sold

Net Sales = Gross Sales - Sales Return (or) Return Inwards

Higher Gross Profit Ratio is an indication that the firm has higher profitability. It also reflects the effective standard of performance of firm's business.

(2) Operating Ratio

Operating Ratio is calculated to measure the relationship between total operating expenses and sales. The total operating expenses is the sum total of cost of goods sold, office and administrative expenses and selling and distribution expenses. In other words, this ratio indicates a firm's ability to cover total operating expenses. In order to compute this ratio, the following formula is used:

$$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100$$

Operating Cost = Cost of goods sold + Administrative Exp + Selling and Distribution Exp

Net Sales = Sales - Sales Return (or) Return Inwards.

(3) **Operating Profit Ratio**

Operating Profit Ratio indicates the operational efficiency of the firm and is a measure of the firm's ability to cover the total operating expenses. Operating Profit Ratio can be calculated as :

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

Operating Profit = Net Sales - Operating Cost

(or)

= Net Sales - (Cost of Goods Sold + Office & Admin. Exp. + Selling & Distribution Exp.)

(or)

= Gross Profit - Operating Expenses

(or)

= Net Profit + Non-Operating Expenses - Non-Operating Income.

Net Sales = Sales - Sales Return (or) Return Inwards

(4) Net Profit Ratio

Net Profit Ratio is also termed as Sales Margin Ratio (or) Profit Margin Ratio (or) Net Profit to Sales Ratio. This ratio reveals the firm's overall efficiency in operating the business. Net profit Ratio is used to measure the relationship between net profit (either before or after taxes) and sales. This ratio can be calculated by the following formula :

$$\text{Net Profit Ratio} = \frac{\text{Net Profit After Tax}}{\text{Net Sales}} * 100$$

Net profit includes non-operating incomes and profits. Non-Operating Incomes such as dividend received, interest on investment, profit on sales of fixed assets, commission received, discount received etc. Profit or Sales Margin indicates margin available after deduction cost of production, other operating expenses, and income tax from the sales revenue. Higher Net Profit Ratio indicates the standard performance of the business concern.

Advantages

(1) This is the best measure of profitability and liquidity.

(2) It helps to measure overall operational efficiency of the business concern.

(3) It facilitates to make or buy decisions.

(4) It helps to determine the managerial efficiency to use a firm's resources to generate income on its invested capital.

(5) Net profit Ratio is very much useful as a tool of investment evaluation.

(5) Return on Investment Ratio (ROI)

This ratio measures a return on the owner's or shareholders' investment. This ratio establishes the relationship between net profit after interest and taxes and the owner's investment. Usually this is calculated in percentage. This ratio, thus. can be calculated as :

Return on Investment Ratio = Net Profit (after interest and tax) x lOO
Shareholders' Fund (or) Investments

Shareholder's Investments = Equity Share Capital + Preference Share Capital + Reserves and Surplus - Accumulated Losses

Net Profit = Net Profit - Interest and Taxes

(6) Return on Capital Employed Ratio

Return on Capital Employed Ratio measures a relationship between profit and capital employed. This ratio is also called as Return on Investment Ratio. The term return means Profits or Net Profits. The term Capital Employed refers to total investments made in the business. The concept of capital employed can be considered further into the following ways:

(a) Gross Capital Employed

(b) Net Capital Employed

(c) Average Capital Employed

(d) Proprietor's Net Capital Employed

(a) Gross Capital Employed = Fixed Assets + Current Assets

(b) Net Capital Employed = Total Assets - Current Liabilities

(c) Average Capital Employed = Opening Capital Employed + Closing Capital Employed / 2

OR

Average Capital Employed = Net Capital Employed + 1/2 of Profit after Tax

(d) Proprietor's Net Capital Employed = Fixed Assets + Current Assets - Outside Liabilities (both long-term and short-term)

In order to compute this ratio, the below presented formulas are used:

(1) Return on Capital Employed = Net Profit after Taxes / Gross Capital Employed x 100

(2) Return on Capital Employed = Net Profit after Taxes before Interest / Gross Capital Employed * 100

(3) Return on Capital Employed = Net Profit after Taxes Before Interest / Average Capital Employed or Net Capital Employed * 100

(7) Earning Per Share Ratio

Earning Per Share Ratio (EPS) measures the earning capacity of the concern from the owner's point of view and it is helpful in determining the price of the equity share in the market place. Earning Per Share Ratio can be calculated as:

$$\text{Earning Per Share Ratio} = \frac{\text{Net Profit after Tax and Preference Dividend}}{\text{No. of Equity Shares}}$$

III. TURNOVER RATIOS

Turnover Ratios may be also termed as Efficiency Ratios or Performance Ratios or Activity Ratios. Turnover Ratios highlight the different aspect of financial statement to satisfy the requirements of different parties interested in the business. It also indicates the effectiveness with which different assets are vitalized in a business. Turnover means the number of times assets are converted or turned over into sales. Depending upon the purpose, the following activities or turnover ratios can be calculated:

1. Inventory Ratio or Stock Turnover Ratio (Stock Velocity)
2. Debtor's Turnover Ratio or Receivable Turnover Ratio (Debtor's Velocity)

2 A. Debtor's Collection Period Ratio

3. Creditor's Turnover Ratio or Payable Turnover Ratio (Creditor's Velocity)

3 A. Debt Payment Period Ratio

4. Working Capital Turnover Ratio
5. Fixed Assets Turnover Ratio
6. Capital Turnover Ratio.

(1) Stock Turnover Ratio

This ratio is also called as Inventory Ratio or Stock Velocity Ratio. Inventory means stock of raw materials, working in progress and finished goods. This ratio is used to measure whether the investment in stock in trade is effectively utilized or not. It reveals the relationship between sales and cost of goods sold or average inventory at cost price or average inventory at selling price. Stock Turnover Ratio indicates the number of times the stock has been turned over in business during a particular period. While using this ratio, care must be taken regarding season and condition, price trend, supply condition etc. In order to compute this ratio, the following formulae are used:

$$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{}$$

Average Inventory at Cost

Cost of Goods Sold = Opening Stock + Purchases + Direct Expenses - Closing Stock

(or)

= Total Cost of Production + Opening Stock of Finished Goods – C/Stock of Finished Goods

Total Cost of Production = Cost of Raw Material Consumed + Wages + Factory Cost

(or)

= Sales - Gross Profit

$$\text{Average Stock} = \frac{\text{Opening Stock + Closing Stock}}{2}$$

$$\text{Stock Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Inventory}}$$

(2) **Debtor's Turnover Ratio**

Debtor's Turnover Ratio is also termed as Receivable Turnover Ratio or Debtor's Velocity. Receivables and Debtors represent the uncollected portion of credit sales. Debtor's Velocity indicates the number of times the receivables are turned over in business during a particular period. In other words, it represents how quickly the debtors are converted into cash. It is used to measure the liquidity position of a concern. This ratio establishes the relationship between receivables and sales. Two kinds of ratios can be used to judge a firm's liquidity position on the basis of efficiency of credit collection and credit policy.

They are (A) Debtor's Turnover Ratio and (B) Debt Collection Period. These ratios may be computed as:

$$\text{(1) Debtor's Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Accounts Receivable}}$$

Account Receivables = Sundry Debtors or Trade Debtors + Bills Receivable

$$\text{Average Accounts Receivable} = \frac{\text{Opening Receivable + Closing Receivable}}{2}$$

Net Credit Sales = Total Sales - (Cash Sales + Sales Return)

It is to be noted that opening and closing receivable and credit sales are not available, the ratio may be calculated by taking total sales and account receivables.

(2) (A) Debt Collection Period Ratio

This ratio indicates the efficiency of the debt collection period and the extent to which the debt have been converted into cash. This ratio is complementary to the Debtor Turnover Ratio. It is very helpful to the management because it represents the average debt collection period. The ratio can be calculated as follows:

(a) Debt Collection Period Ratio = Months (or) Days in a year / Debtor's Turnover

(3) **Creditor's Turnover Ratio**

Creditor's Turnover Ratio is also called as Payable Turnover Ratio or Creditor's Velocity. The Term Accounts Payable or Trade Creditors include sundry creditors and bills payable. This ratio establishes the relationship between the net credit purchases and the average trade creditors. Creditor's velocity ratio indicates the number of times with which the payment is made to the supplier in respect of credit purchases. Two kinds of ratios can be used for measuring the efficiency of payable of a business concern relating to credit purchases. They are: (1) Creditor's Turnover Ratio (2) Creditor's Payment Period or Average Payment Period. The ratios can be calculated by the following formulas:

(1) Creditor's Turnover Ratio = Net Credit Purchases / Average Accounts Payable

Net Credit Purchases = Total Purchases - Cash Purchases

Average Accounts Payable = Opening Payable + Closing Payable / 2

(2) Average Payment Period = Month (or) Days in a year / Creditors Turnover Ratio

(or)

Average Trade Creditors * 365 / Net Credit Purchases

Significance: A high Creditor's Turnover Ratio signifies that the creditors are being paid promptly. A lower ratio indicates that the payment of creditors is not paid in time. Also, high average payment period highlight the unusual delay in payment and it affect the creditworthiness of the firm. A low average payment period indicates enhancing the creditworthiness of the company.

(4) **Working Capital Turnover Ratio**

This ratio highlights the effective utilization of working capital with regard to sales. This ratio represents the firm's liquidity position. This ratio is calculated as follows :

$$\text{Working Capital Turnover Ratio} = \frac{\text{Net Sales}}{\text{Working Capital}}$$

Net Sales = Gross Sales - Sales Return

Working Capital = Current Assets - Current Liabilities

Significance: It is an index to know whether the working capital has been effectively utilized or not in making sales. A higher working capital turnover ratio indicates efficient utilization of working capital, i.e., a firm can repay its fixed liabilities out of its working capital. Also, a lower working capital turnover ratio shows that the firm has to face the shortage of working capital to meet its day-to-day business activities unsatisfactorily.

(5) Fixed Assets Turnover Ratio

This ratio indicates the efficiency of assets management. Fixed Assets Turnover Ratio is used to measure the utilization of fixed assets. This ratio establishes the relationship between cost of goods sold and total fixed assets. Higher the ratio highlights a firm has successfully utilized the fixed assets. If the ratio is depressed, it indicates the under utilization of fixed assets. The ratio may also be calculated as:

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Total Fixed Assets}}$$

IV. SOLVENCY RATIOS

The term 'Solvency' generally refers to the capacity of the business to meet its short-term and long-term obligations. Short-term obligations include creditors, bank loans and bills payable etc. Long-term obligations consist of debenture, long-term loans and long-term creditors etc. Solvency Ratio indicates the sound financial position of a concern to carry on its business smoothly and meet its all obligations. Some of the important ratios which are given below in order to determine the solvency of the concern:

(1) Debt - Equity Ratio

(2) Proprietary Ratio

(3) Capital Gearing Ratio

(4) Debt Service Ratio or Interest Coverage Ratio

(1) **Debt Equity Ratio**

This ratio also termed as External - Internal Equity Ratio. This ratio is calculated to ascertain the firm's obligations to creditors in relation to funds invested by the owners. The ideal Debt Equity Ratio is 1: 1. This ratio also indicates all external liabilities to owner recorded claims. It may be calculated as

(a) Debt - Equity Ratio = External Equities / Internal Equities

or

(b) Debt - Equity Ratio = Outsider's Funds / Shareholders' Funds

The term External Equities refers to total outside liabilities and the term Internal Equities refers to all claims of preference shareholders and equity shareholders' and reserve and surpluses.

(c) Debt - Equity Ratio = Total Long-Term Debt / Total Long-Term Funds

(or)

(d) Debt - Equity Ratio = Total Long-Term Debt / Shareholders' Funds

The term Total Long-Term Debt refers to outside debt including debenture and long-term loans raised from banks.

(2) Proprietary Ratio

Proprietary Ratio is also known as Capital Ratio or Net Worth to Total Asset Ratio. The term proprietary fund is called Net Worth. This ratio shows the relationship between shareholders' fund and total assets. It may be calculated as:

Proprietary Ratio = Shareholders' Fund / Total Assets

Shareholders' Fund = Preference Share Capital + Equity Share Capital + Reserves & Surplus

Total Assets = Tangible & Non-Tangible Assets + Current Assets

Or All Assets including Goodwill

Significance: This ratio used to determine the financial stability of the concern in general. Proprietary Ratio indicates the share of owners in the total assets of the company. A higher proprietary ratio indicates relatively little secure position in the event of solvency of a concern. A lower ratio indicates greater risk to the creditors. A ratio below 0.5 is alarming for the creditors.

(3) Capital Gearing Ratio

This is one of the Solvency Ratios. The term capital gearing refers to describe the relationship between fixed interest and/or fixed dividend bearing securities and the equity shareholders' fund.

$$\text{Capital Gearing Ratio} = \frac{\text{Equity Share Capital}}{\text{Fixed Interest Bearing Funds}}$$

Equity Share Capital = Equity Share Capital + Reserves and Surplus

Fixed Interest Bearing Funds = Debentures + Preference S/Capital + Other Long-Term Loans

A high capital gearing ratio indicates a company is having large funds bearing fixed interest and/or fixed dividend as compared to equity share capital. A low capital gearing ratio represents preference share capital and other fixed interest bearing loans are less than equity share capital.

(4) Debt Service Ratio

Debt Service Ratio is also termed as Interest Coverage Ratio or Fixed Charges Cover Ratio. This ratio establishes the relationship between the amount of net profit before deduction of interest and tax and the fixed interest charges. It is used as a yardstick for the lenders to know the business concern will be able to pay its interest periodically.

$$\text{Interest Coverage Ratio} = \frac{\text{Net Profit before Interest and Income Tax}}{\text{Fixed Interest Charges}}$$

V. OVERALL PROFITABILITY RATIO

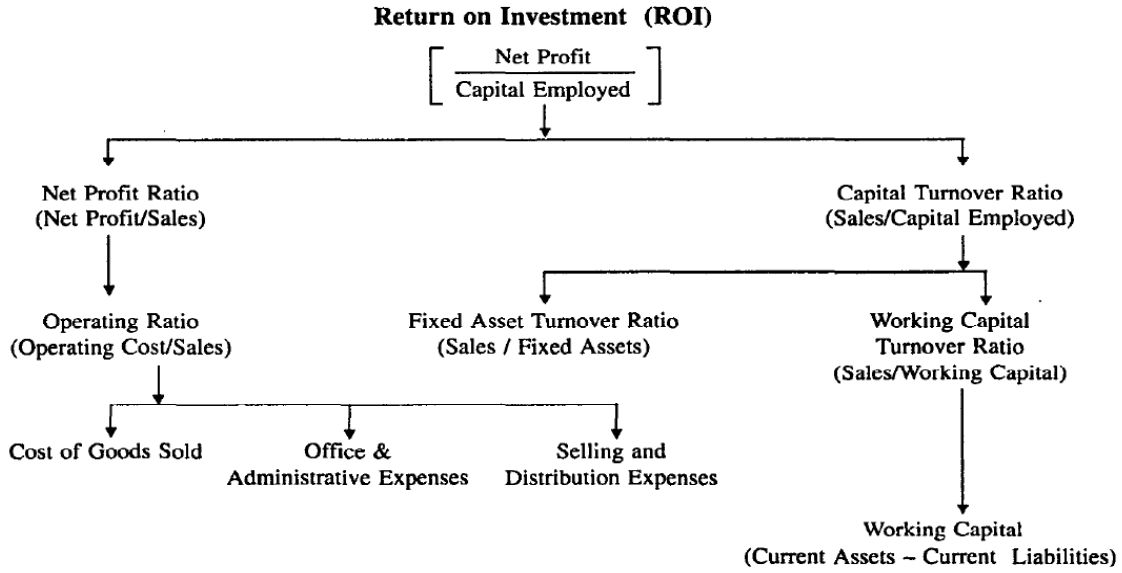
This ratio used to measure the overall profitability of a firm on the extent of operating efficiency it enjoys. This ratio establishes the relationship between profitability on sales and

the profitability on investment turnover. Overall all Profitability Ratio may be calculated in the following ways:

$$\text{Overall Profitability Ratio} = \frac{\text{Net Profit}}{\text{Sales}} * 100$$

DU PONT CONTROL CHART (OR) DU PONT ANALYSIS

ROI indicates the efficiency of the concern which depends upon the working operations of the concern. Net Profit Ratio and Capital Turnover Ratio, as often called is usually computed on the basis of the chart represented by DU Pont. Thus it is known as "DU Pont Chart." This system of control was applied for the first time by DU Pont Company of the United States of America. The DU Pont chart helps to the management to identify the areas of problems for the variations in the return on investment so that actions may initiate to improve the performance. The following chart can explain the ROI effect by a number of factors.



FUND FLOW ANALYSIS

INTRODUCTION

Balance sheet and profit and loss account are the two principal financial statements of a firm. But these two statements are deficient in providing certain useful information required for decision making. Hence there is a need of preparing a separate statement in addition to balance sheet and P & L account. Thus a statement is invented which can provide information about different sources of funds and their various uses or sources of inflows and outflows of funds. Such a statement is called Funds flow statement.

Definition: *A statement of source and application of funds is a technical device designed to analyze the changes in the financial position of business firm between two dates.*

TECHNIQUES OF PREPARATION OF FUND FLOW STATEMENT

1. Schedule of statement of changes in working capital
2. Statement of source and uses of fund or funds flow from operation

DIFFERENCE BETWEEN THE FUND FLOW STATEMENT & BALANCE SHEET

Base	Fund flow Statement	Balance sheet
Nature	Dynamic in nature	Static in nature
Subject matter	It included the items causing changes in the working capital	It includes the balances of real personal accounts of ledger assets and liabilities and shows the total resources of the firm full life period.
Utility	Useful in decision making	Examine the soundness of the firm
Users	Internal management	External parties
Preparation	It is the exercise of post balance sheet	End product of all accounting period

DIFFERENCE BETWEEN FUND FLOW STATEMENT & INCOME STATEMENT

Objective	Funds raised are matched with the uses	Expenses are matched with the income
Dependency	Not helpful in preparing income statement	Helpful in preparing the fund flow statement
Utility	It is related to the movement of cash and all other items affecting the working capital	Highlights the operating result of an accounting period and changes in the financial position

IMPORTANCE OF FUNDS FLOW STATEMENT

1. Provide the information regarding changes in funds position

Funds Flow Statement provides the informations regarding the funds, from where they have procured and where they have invested meanwhile two specific dates.

2. It helps in the formation of future dividend policy

Sometimes a firm has sufficient profit available for distribution as dividend but yet it may not be advisable to distribute dividend for lack of liquid or cash resources. In such cases, funds flow statement helps in the formation of a realistic dividend policy.

3. It helps in proper allocation of resources

The resources of a concern are always limited and it wants to make the best use of these resources. A projected funds flow statement constructed for the future helps in making managerial decisions. The firm can plan the deployment of its resources and allocate them among various applications.

4. It act as future guide

A projected funds flow statement also acts as a guide for future to the management. The management can come to know the various problems it is going to face in near future for want of funds. The firm's future needs of funds can be projected well in advance and also the timing of these needs. The form can arrange to finance these needs more effectively and avoid future problems.

5. It helps in appraising the use of working capital

It helps to appraise the performance of a financial manager in utilization of the working capital and also suggested the right way to use the working capital efficiently.

6. It helps to the overall credit worthiness of a firm

The financial institutions and banks such as SFI, IDBI, IFCI etc. all ask for funds flow statement constructed for a number of years before granting loans to know the creditworthiness and paying capacity of the firm. Hence, a firm seeking financial assistance firm these institutions has no alternative but to prepare funds flow statements.

7. It helps to know about the utilization of the sources

It also provides the information to the managers and another interested parties that the sources they have collected or provided where they have allocated.

LIMITATIONS

The funds flow statement also suffers from some of the limitations, which are as follows:

1. **Prepared from the final statements:** The funds flow statement is prepared with the help of final statements. So all the limitations of the final statements are inherent in it.

2**. Only rearrangement**: The funds flow statement is only the rearrangement of the data provided by the final statements so this is not providing the actual figure and facts.

3**. Past oriented**: The funds flow statements provides only the historical information. They are not guiding about the future.

4**. Working capital oriented**: It concentrates on the concept of the working capital and show the position of the working capital in the concern while changes in cash are more important and relevant for financial management than the working capital.

CASH FLOW STATEMENT

MEANING

Cash Flow Statement is a statement that describes the inflow (sources) and outflow (applications) of cash and cash equivalent in an enterprise during a specified period of time. Such a statement enumerates net effect of the various business transactions on cash and its equivalent and takes into account receipts and disbursement of cash. Cash flow statement summaries the causes of changes in cash position of a business enterprise between dates of two balance sheets.

PURPOSE AND USES OF CASH FLOW STATEMENT

1. It is very useful in the evaluation of cash position of a firm.
2. A projected cash flow statement can be prepared in order to know the future cash position of a concern so as to enable a firm to plan and coordinates its financial operations properly.
3. A comparison of historical and projected cash flow statement can be made so as to find the variation and deficiency or otherwise in the performance so as to enable the firm to take immediate and effective actions.
4. A series of intra firm and inter firm cash flow statement reveals whether the firm's liquidity is improving or deteriorating over a period of time.
5. Cash flow statement helps in planning the repayment of loans, replacement of fixed assets and other similar long term planning of cash.
6. Cash flow analysis is more useful and appropriate than funds flow analysis for short-term financial analysis as in a very short period it is cash, which is more relevant, then the working capital for forecasting the ability of the firm to meet its immediate obligations.
7. Cash flow statement prepared according to AS-3 is more suitable for making comparison than the funds flow statement, as there is no standards format used for the same.
8. Cash flow statement provides information of all activities classified under operating, investing and financing activities.

STRUCTURE OF CASH FLOW STATEMENT

According to AS-3, the cash flow statement should report cash flows during the period classified by operating, investment and financing activities as follows:

- Cash flow from operating activities
- Cash flow from investing activities
- Cash flow from financing activities

Format of INDIRECT METHOD

XYZ BHD

CASH FLOW STATEMENT FOR THE YEAR ENDED 31 DEC 2XXX

	$	$
Cash from operating activities:		
Net profit before taxation		XX
Adjustments for:		
Depreciation		X
Foreign exchange loss		X
Investment income		(X)
Interest expense		X
Interest income		(X)
Gain on disposal of property,plant and equipment		(X)
Loss on disposal of investment		X
Operating profit before working capital changes		XX
Decrease in receivables		XX
Increase in inventories		(XX)
Increase in trade payables		XX
Cash generated from operations		XX
Cash flows from investing activities:		
Purchase of property, plant and equipment	(X)	
Proceeds from disposal of land	(X)	
Purchase of equity investment	(X)	
Interest received	X	
Dividend received	X	
Net cash inflow from investing activities		XX
Cash flows from financing activities:		
Proceeds from issue of share capital	XX	
Proceeds from long-term loans	XX	
Redemption of preference shares	(X)	
Repayment of long-term loans	(X)	
Dividend paid	(X)	
Net cash flow from financing activities		XX
Net increase in cash and cash equivalents		XX
Cash and cash equivalents at beginning of period (**note (a)**)		XX
Cash and cash equivalents at end of period (**note (a)**)		XX

Note (a)
Cash and cash equivalents
Cash and cash equivalents consist of cash on hand and at bank, overdraft and short-term investments

	Beginning of period	End of period
	$	$
Cash at bank and in hand	XX	XX
Short-term investment	XX	XX
Bank overdraft	(XX)	(XX)
Cash and cash equivalent	XX	XX

UNIT -3

STANDARD COSTING AND VARIANCE ANALYSIS

MEANING OF STANDARD COST AND STANDARD COSTING

The word 'standard' means a benchmark or gauge. The 'standard cost' is a predetermined cost which determines in advance what each Product or service should cost under given circumstances. Backer and Jacobsen define "Standard cost is the amount the firm thinks a Product or the operation of a process for a period of time should cost, based upon certain assumed conditions of efficiency, economic conditions and other factors.

STANDARD COSTING Vs. BUDGETARY CONTROL

Although budgetary control and standard costing both are based on some common principles; both are pre-determined, comparison are made with actual costs and both system need a revision of the standards or budget, these two systems have certain differences which are as follows:

1. Budgetary control deals with the operation of a department or the business as a whole in terms of revenue and expenditure. Standard costing is a system of costing which makes a comparison between standard costs of each product or service with its actual cost.
2. Budgetary control covers as a whole in terms of revenue and expenditures such as purchases, sales, production, finance etc. Standard costing is related to a product and its cost only.
3. Budgetary control is applicable to utmost all business organizations. Standard costing is applicable to manufacturing concerns producing standard products and services.
4. Budgetary control is concerned with a specific period and is based on the totals of amounts. Standard costing is concerned with the standard costs, which are worked out generally per unit of production.
5. Budgetary control is not based on standard costing system. Standard costing cannot exist in the absence of a budgetary control system.

STANDARD COSTS AND ESTIMATED COSTS

Estimates are the expressions of opinion based upon past experiences whereas the standard costs are based upon standard rate that are very carefully developed and set as scientifically

as possible. However, both estimated costs and standard costs are related to future period of time but there are some significant differences between them. Some major differences between standard costs and estimated costs are listed below:

1. Estimated costs are the expressions of opinion based upon experience. Standard costs are based upon standard rates that are carefully developed and set as scientifically as possible.
2. Estimated costs are used by those firms that follow historical costing system. Standard costs are used by those organizations that follow standard costing.
3. Estimated costs are based on actual costs and anticipated costs. Standard costs are fixed after scientific analysis of relevant cost elements.
4. Estimated costs are based on approximation. Standard costs are based upon specifications
5. Estimated costs are normally used as guideline for price determination, quoting the selling price etc. Main purpose of standard costs is to serve as a tool for cost control.

ADVANTAGES OF STANDARD COSTING

Standard costing is not only helpful for cost control purposes but it is also useful in Production planning and policy formulation. It derives following advantages:

1. Measurement of Efficiency: It is a tool for assessing the efficiency after comparing the actual costs with standard costs to enable the management to evaluate Performance of various cost centers. By comparing actual costs with standard costs Variances are determined and management is able to identify the place of Inefficiencies. It can fix responsibility for deviation in performance. A regular check on various expenditures is also ensured by standard costing system.

2. Production and Price Policy Formulation: It becomes easy to formulate Production plans by taking into account standard costs. It is also supportive for finding prices of various products. In case, tenders are to be submitted or prices are to be quoted in advance then standard costing produces necessary data for price fixation.

3. Reduction of Work: In this system, management is supplied with useful Information and necessary information is recorded and redundant data are avoided. The report presentation is simplified and only required information is presented in such a form that management is able to interpret the information easily and usefully. Therefore, standard costing reduces clerical work to a considerable extent.

4. Management by Exception: Management by exception means that everybody is given a target to be achieved and management need not supervise each and everything. The responsibilities are fixed and everybody tries to achieve his Targets. If the things are going as per targets then the management needs not to bother.

Management devotes its time to other important things. So, management by exception is possible only when targets of work can be fixed. Standard costing enables the Determination of targets.

LIMITATIONS OF STANDARD COSTING

Besides all the above benefits derived from this system, it has a number of limitations, which are discussed as follows:

1. Standard costing cannot be used in those concerns where non-standard products are produced.

2. The time and motion study is required to be undertaken for the process of setting up standards. These studies require a lot of time and money. Further, the process of setting up standards is a difficult task, as it requires technical skill.

3. There are no inset circumstances to be considered for fixing standards. With the change in circumstances the standards are also to be revised. The revision of standard is a costly process.

4. This system is expensive and small concerns may not afford to bear the cost. For small concerns the utility from this system may be less than the cost involved in it.

5. The fixing of responsibility is not an easy task. The variances are to be classified into controllable and uncontrollable variances. The responsibility can be fixed only for controllable variances not in the case of uncontrollable.

6. The industries liable for frequent technological changes will not be suitable for standard costing system. The change in production process will require a revision of standard. A frequent revision of standard will be costly. So this system will not be useful for industries where methods and techniques of production are fast changing.

PRELIMINARIES FOR ESTABLISHING STANDARD COSTING SYSTEM

The establishment of a standard costing system involves the following steps:

1. Determination of Cost Centre: A cost centre may be a department or part of a department or item of equipment or machinery or a person or a group of persons in respect of which costs are accumulated and one where control can be exercised. Cost centres are necessary for determining the costs.

2. Classification of Accounts: Classification of accounts is necessary to meet a required purpose i.e., function, asset or revenue item. Codes can be used to have a speedy collection of accounts. A standard is a predetermined measure of material, labour and overheads. It may be expressed in quantity and its monetary measurements in standard costs.

3. Types of Standards: The standards are classified into three categories:

(i) Current Standard. A current standard is a standard which is established for use over a short period of time and is related to current condition. It reflects the performance which should be accomplished during the current period. The period for current standard is normally one year.

(a) Ideal Standard. The standard represents a high level of efficiency. It is fixed on the assumption that favorable conditions will prevail and management will be at its best.

(b) Expected Standard. This standard is based on expected conditions. It is the target which can be achieved if expected conditions prevail. All existing facilities and expected changes are taken into consideration while fixing these standards. An allowance is given for human error and normal deficiencies.

(ii) Basic Standard: A basic standard is established for use for an indefinite period or a long period. These standards are revised only on the changes in specification of material and technology production.

(iii) Normal Standard: Normal standard is a standard which is anticipated can be attained over a future period of time, preferably long enough to cover one trade cycle. This standard is based on the conditions which will cover a future period, say 5 years, concerning one trade cycle.

4. Organisation for Standard Costing: In a business concern a standard costing committee is formed for the purpose of setting standards. The committee includes production manager, purchase manager, sales manager, personnel manager, chief engineer and cost accountant. The Cost Accountant acts as a coordinator of this committee. He supplies all information for determining the standard and later on coordinates the costs of different departments.

5. Setting of Standards: The standard for direct material, direct labour and overhead expenses are fixed. The standards for direct material, direct labour and overheads should be set up in a systematic way so that they can be used as a tool for cost control easily.

ANALYSIS OF VARIANCES

The divergence between standard costs, profits or sales and actual costs, profits or sales respectively will be known as variances. The variances may be favorable and unfavorable. If actual cost is less the standard cost, the variances will be favorable. On the contrary if actual cost is more than the standard cost, the variances will be unfavorable.

DIRECT MATERIAL VARIANCES

Direct material variances are also known as material cost variances. The material cost variance is the difference between the standard cost of materials that should have been incurred for manufacturing the actual output and the cost of materials that has been actually incurred. Material Cost Variance comprises of:

(i) Material Price Variance

(ii) Material Usage Variance

(a) Material Mix Variance

(b) Material Yield Variance.

(c) Material sub usage variance.

The following equations may be used for verification of material cost variances.

(i) MCV=MPV+MUV or MPV+MMV+MYV

(ii) MUV=MMV+MYV

(a) Materials Cost Variance: Material cost variance is the difference between standard materials cost and actual materials cost. Material cost variance is ascertained as such:

Standard Material Cost = Standard Price per unit x Standard Quantity of materials

Actual Material Cost = Actual price per unit x Actual quantity of materials.

MCV = Standard Material Cost – Actual Material Cost

NOTE- If the standard cost is more than the actual cost, the variance will be favorable and on the other hand, if the actual cost is more than standard cost, the variance will be unfavorable.

(b) Materials Price Variance

Materials Price Variance= Actual Quantity (Standard price–Actual price)

NOTE- If the answer is in plus, the variance will be favourable and it will be unfavourable if the result is in negative.

(c) Material Usage Variance

Materials usage variance= Standard Price (Standard Quantity – Actual Quantity)

NOTE- If the answer from the above mentioned formula is in plus, the variance will be a favourable variance but if the answer is in minus the variance will be unfavourable or adverse. .

(d) Material Mix Variance: Materials mix variance is that part of material usage variance which arises due to changes in standard and actual composition of mix.

The variance is calculated under two situations:

(i) When actual weight of mix is equal to standard weight of mix, and

(ii) When actual weight of mix is different from the standard mix.

(i) When Actual Weight and Standard Weight of Mix is Equal

In this case the formula for calculating mix variance is:

Materials Mix variance=Standard unit cost (Standard Quantity – Actual Quantity)

(ii) When Actual Weight and Standard Weight of Mix are Different

When quantities of actual material mix and standard material mix are different, the formula is:

Materials Mix variance=Standard unit cost (Revised Standard Quantity – Actual Quantity)

e) Materials Yield Variance. This is the sub-variance of material usage variance. It results from the difference between actual yield and standard yield. It may be defined as that portion of the direct materials usage variance which is due to the standard yield specified and the actual yield obtained. It may arise due to low quality of materials, defective methods of production, carelessness in handling materials, etc.

Material yield variance is calculated with the following formula:

Material Yield Variance=Standard Rate (Actual yield – Standard yield)

DIRECT LABOUR VARIANCES

(a) Labour Cost Variance

Labour Cost Variance or Direct Wage Variance is the difference between the standard direct wages specified for the activity and the actual wages paid. It is the function of labour rate of pay and labour time variance. It arises due to a change in either a wage rate or in time or in both. It is calculated as follows:

LCV = Standard Time x Standard Wage Rate – Actual Time x Actual Wage Rate

(b) Labour Rate of Pay or Wage Rate Variance

The wage rates are determined by demand and supply conditions of labour conditions in labour market, wage board awards, etc. So, wage rate variance is generally uncontrollable except if it arises due to the development of wrong grade of labour for which production foreman will be responsible. This variance is calculated by the formula:

Labour Rate of Pay Variance = Actual time (Standard Rate – Actual Rate)

The variance will be favourable if actual rate is less than the standard rate and it will be unfavourable or adverse if actual rate is more than the standard rate.

(c) Labour Efficiency or Labour Time Variance

It is that part of labour cost variance which arises due to the difference between standard labour hours specified and the actual labour hours spent. It helps in controlling efficiency of workers. Labour efficiency variance is calculated as:

Labour efficiency variance = Standard Wage Rate (Standard Time–Actual Time)

NOTE- If actual time taken for doing a work is more than the specified standard time, then Standard Cost of Standard Labour Mix variance will be unfavourable. On the other hand, if actual time taken for a job is less than the standard time, the variance will be favourable.

(d) Idle Time Variance

This variance is the standard cost of actual time paid to workers for which they have not worked due to abnormal reasons. The Reasons for idle time may be power failure, defect in

machinery, and non supply of materials, etc. Idle time variance is always adverse and needs investigation for its causes. This variance is calculated as:

Idle Time Variance = Idle Hours x Standard Rate

(e) Labour Mix or Gang Composition Variance

This variance arises due to change in the actual gang composition than the standard gang composition. This variance shows to the management how much labour cost variance is due to the change in labour composition.

It may be calculated in two ways:

(i) When standard and actual times of the labour mix are same:

LMV = Standard Cost of Standard Labour Mix – Standard Cost of Actual Labour Mix.

(ii) When standard and actual time of labour mix are different:

LMV = Standard Cost of Standard Labour Mix – Standard Cost of Actual Labour Mix

BUDGETARY CONTROL

DEFINITION OF BUDGET

The Chartered Institute of Management Accountants, England, defines a 'budget' as under:

"A financial and/or quantitative statement, prepared and approved prior to define period of time, of the policy to be perused during that period for the purpose of attaining a given objective."

According to Brown and Howard of Management Accountant "a budget is a predetermined statement of managerial policy during the given period which provides a standard for comparison with the results actually achieved."

An analysis of the above said definitions reveal the following essentials of a budget:

1. It is prepared for a definite future period.
2. It is a statement prepared prior to a defined period of time.
3. The budget is monetary and/or quantitative statement of policy.
4. The budget is a predetermined statement and its purpose is to attain a given objective.

A budget, therefore, be taken as a document which is closely related to both the managerial as well as accounting functions of an organization.

FORECAST VS BUDGET

Forecast is mainly concerned with an assessment of probable future events. Budget is a planned result that an enterprise aims to attain. Forecasting precedes preparation of a budget as it is an important part of the budgeting process. It is said that the budgetary process is more a test of forecasting skill than anything else. A budget is both a mechanism for profit planning and technique of operating cost control. In order to establish a budget it is essential to forecast various important variables like sales, selling prices, availability of materials, prices of materials, wage rates etc. both budgets and forecasts refer to the anticipated actions and events. But still there are wide differences between budgets and forecasts as given below:

Forecasts	Budgets
1. Forecasts is mainly concerned with	1. Budget is related to plan events.

anticipated or probable events.	
2. Forecasts may cover for longer period.	2. Budget is prepared for a shorter period.
3. Forecast is only a tentative estimate.	3. Budget is a target fixed for a period.
4. Forecast results in planning.	4. Result of planning is budgeting.
5. The function of forecast ends with the forecast of likely events.	5. The process of budget starts where forecast ends and converts it into a budget.
6. Forecast usually covers a specific business function.	6. Budget is prepared for the business as a whole.
7. Forecasting does not act as a tool of controlling measurement.	7. Purpose of budget is not merely a planning device but also a controlling tool.

BUDGETARY CONTROL

Budgetary control is the process of establishment of budgets relating to various activities and comparing the budgeted figures with the actual performance for arriving at deviations, if any. Accordingly, there cannot be budgetary control without budgets. Budgetary control is a system which uses budgets as a means of planning and controlling.

According to I.C.M.A. England Budgetary control is defined by Terminology as "the establishment of budgets relating to the responsibilities of executives to the requirements of a policy and the continuous comparison of actual with the budgeted results, either to secure by individual actions the objectives of that policy or to provide a basis for its revision".

The above definitions reveal the following essentials of budgetary control:

1. Establishment of objectives for each function and section of the organization.
2. Comparison of actual performance with budget.
3. Ascertainment of the causes for such deviations of actual from the budgeted performance.
4. Taking suitable corrective action from different available alternatives to achieve the desired objectives.

OBJECTIVES OF BUDGETARY CONTROL

Budgetary control is planning to assist the management for policy formulation, planning, controlling and co-ordinating the general objectives of budgetary control and can be stated in the following ways:

1**. Planning:** A budget is a plan of action. Budgeting ensures a detailed plan of action for a business over a period of time.

2. **Co-ordination:** Budgetary control co-ordinates the various activities of the entity or organization and secure co-operation of all concerned towards the common goal.

3. **Control:** Control is necessary to ensure that plans and objectives are being achieved. Control follows planning and co-ordination. No control performance is possible without predetermined standards. Thus, budgetary control makes control possible by continuous measures against predetermined targets. If there is any variation between the budgeted performance and the actual performance the same is subject to analysis and corrective action.

SCOPE OF BUDGETARY CONTROL

1. Budgets are prepared for different functions of business such as production, sales etc. Actual results are compared with the budgets and control is exercised.

2. Budgets have a wide range of coverage of the entire organization. Each operation or process is divided into number of elements and standards are set for each such element.

3. Budgetary control is concerned with origin of expenditure at functional levels.

4. Budget is a projection of financial accounts whereas standard costing projects the cost accounts.

REQUISITES FOR EFFECTIVE BUDGETARY CONTROL

The following are the requisites for effective budgetary control:

1. Clear cut objectives and goals should be well defined.
2. The ultimate objective of realising maximum benefits should always be kept uppermost.
3. There should be a budget manual which contains all details regarding plan and procedures for its execution. It should also specify the time table for budget preparation for approval, details about responsibility, cost centers etc.
4. Budget committee should be set up for budget preparation and efficient of the plan.
5. A budget should always be related to a specified time period.
6. Support of top management is necessary in order to get the full support and cooperation of the system of budgetary control.
7. To make budgetary control successful, there should be a proper delegation of authority and responsibility.

8. Adequate accounting system is essential to make the budgeting successful.
9. The employees should be properly educated about the benefits of budgeting system.
10. The budgeting system should not cost more to operate than it is worth.
11. Key factor or limiting factor, if any, should consider before preparation of budget.
12. For budgetary control to be effective, proper periodic reporting system should be introduced.

ORGANIZATION FOR BUDGETARY CONTROL

In order to introduce budgetary control system, the following are essential to be considered for a sound and efficient organization. The important aspects to be considered are explained as follows:

1. ***Organisation chart:*** For the purpose of effective budgetary control, it is imperative on the part of each entity to have definite 'plan of organization'. This plan of organization is embodied in the organization chart. The organization chart explaining clearly the position of each executive's authority and responsibility of the firm. All the functional heads are entrusted with the responsibility of ensuring proper implementation of their respective departmental budgets.

2. ***Budget Center****:* A budget center is defined by the terminology as 'a section of the organization of an undertaking defined for the purpose of budgetary control'. For effective budgetary control budget centre or departments should be established for each of which budget will be set with the help of the head of the department concerned.

3. ***Budget officer:*** Budget officer is usually some senior member of the accounting staff who controls the budgetary process. He does not prepare the budget himself, but facilitates and coordinates the budgeting activity. He assists the individual departmental heads and the budget committee, and ensures that their decisions are communicated to the appropriate people.

4. Budget committee: Budget committee comprising of the Managing Director, the Production Manager, Sales Manager and Accountant. The main objective of this committee is to agree on all departmental budgets, normal standard hours and allocations. In small concerns, the Budget Officer may co-ordinate the work for preparation and implementation of budgets. In large-scale concern a budget committee is setup for preparation of budgets and execution of budgetary control.

5. Budget manual: A budget manual has been defined as 'a document which set out the responsibilities of persons engaged in the routine of and the forms and records required for budgetary control". It contains all details regarding the plan and procedures for its execution.

6. Budget period: A budget is always related to specified time period. The budget period is the length of time for which a budget is prepared and employed. However, for the sake of convenience, the budget period may be fixed depending upon the following factors:

(a) Types of business

(b) Types of budget

(c) Nature of the demand of the product

(d) Length of trade cycle

(e) Economic factors

(f) Availability of accounting period

(g) Availability of finance

(h) Control operation

ADVANTAGES OF BUDGETARY CONTROL

1. It facilitates reduction of cost.
2. Budgetary control guides the management in planning and formulation of policies.
3. Budgetary control facilitates effective co-ordination of activities of the various departments and functions by setting their limits and goals.
4. It ensures maximization of profits through cost control and optimum utilization of resources.
5. It evaluates for the continuous review of performance of different budget centres.
6. It helps to the management efficient and economic production control.
7. It facilitates corrective actions, whenever there are inefficiencies and weaknesses comparing actual performance with budget.
8. It guides management in research and development.

LIMITATIONS OF BUDGETARY CONTROL

1. The budget plan is based on estimates and forecasting. Forecasting cannot be considered to be an exact science. If the budget plans are made on the basis of inaccurate forecasts then the budget programme may not be accurate and ineffective.

2. For reason of uncertainty about future, and changing circumstances which may develop later on, budget may prove short or excess of actual requirements.
3. Effective implementation of budgetary control depends upon willingness, cooperation and understanding among people reasonable for execution. Lack of cooperation leads to inefficient performance.
4. The system does not substitute for management. It is like a management tool.
5. Budgeting may be cumbersome and time consuming process.

TYPES OF BUDGETS

As budgets serve different purposes, different types of budgets have been developed. The following are the different classification of budgets developed on the basis of time, functions, and flexibility or capacity.

(A) Classification on the basis of Time

(B) Classification according to functions

(C) Classification on the basis of capacity

(A) CLASSIFICATION ON THE BASIS OF TIME

1. ***Long-term budgets:*** Long-term budgets are prepared for a longer period varies between five to ten years. It is usually developed by the top level management. These budgets summarize the general plan of operations and its expected consequences.

Long-term budgets are prepared for important activities like composition of its capital expenditure, new product development and research, long-term finance etc.

2. ***Short-term budgets:*** These budgets are usually prepared for a period of one year. Sometimes they may be prepared for shorter period as for quarterly or half yearly.

3. ***Current budgets:*** Current budgets are prepared for the current operations of the business. The planning period of current budget is generally in months or weeks. As per ICMA London, "Current budget is a budget which is established for use over a short period of time and related to current conditions."

(B) CLASSIFICATION ON THE BASIS OF FUNCTION

1. Functional budget: The functional budget is one which relates to any of the functions of an organization. The number of functional budgets depends upon the size and nature of business. The following are the commonly used:

(i) Sales budget

(ii) Purchase budget

(iii) Production budget

(iv) Selling and distribution cost budget

(v) Labour cost budget

(vi) Cash budget

(vii) Capital expenditure budget

2. ***Master budget:*** The master budget is a summary budget. This budget encompasses all the functional activities into one harmonious unit. The ICMA England defines a Master Budget as the summary budget incorporating its functional budgets, which is finally approved, adopted and employed.

(C) CLASSIFICATION ON THE BASIS OF CAPACITY

1. ***Fixed budget:*** A fixed budget is designed to remain unchanged irrespective of the level of activity actually attained.

2. ***Flexible budget:*** A flexible budget is a budget which is designed to change in accordance with the various level of activity actually attained. The flexible budget also called as Variable Budget or Sliding Scale Budget, takes both fixed, variable and semi fixed manufacturing costs into account.

CONTROL RATIOS

Ratios are used by the management to determine whether performance of its activities is going on as per estimates or not. If the ratio is 100% or more, the performance is considered as unsatisfactory. The following are the ratios generally calculated for performance evaluation.

1. Capacity ratio*:* This ratio indicates the extent to which budgeted hours of activity is actually utilised.

Capacity Ratio = Actual hours worked production / Budget hours × 100

2. Activity ratio: This ratio is used to measure the level of activity attained during budget period.

Activity ratio = Standard hours for actual production / Budgeted hours × 100

3. Efficiency ratio: This ratio shows the level of efficiency attained during the budget period

Efficiency ratio = Standard hours for actual production / Actual hours worked × 100

4. Calendar ratio: This ratio is used to measure the proportion of actual working days to budgeted working days in a budget period.

$$\text{Calendar ratio} = \frac{\text{Number of actual working days in a period}}{\text{Budgeted working days for the period}} * 100$$

SALES BUDGET

Sales budget is one of the important functional budgets. Sales estimate is the commencement of budgeting may be made in quantitative terms. Sales budget is primarily concerned with forecasting of what products will be sold in what quantities and at what prices during the budget period. Sales budget is prepared by the sales executives taking into account number of relevant and influencing factors such as: Analysis of past sales, key factors, market conditions, production capacity, government restrictions, competitor's strength and weakness, advertisement, publicity and sales promotion, pricing policy, consumer behaviour, nature of business, types of product, company objectives, salesmen's report, marketing research's reports, and product life cycle.

PRODUCTION BUDGET

Production budget is usually prepared on the basis of sales budget. But it also takes into account the stock levels desired to be maintained. The estimated output of business firm during a budget period will be forecast in production budget. The production budget determines the level of activity of the produce business and facilities planning of production so as to maximum efficiency. The production budget is prepared by the chief executives of the production department. While preparing the production budget, the factors like estimated sales, availability of raw materials, plant capacity, availability of labour, budgeted stock requirements etc. are carefully considered.

COST OF PRODUCTION BUDGET

After preparation of production budget, this budget is prepared. Production cost budgets show the cost of the production determined in the production budget. Cost of production budget is grouped in to material cost budget, labour cost budget and overhead cost budget. Because it break up the cost of each product into three main elements material, labour and overheads. Overheads may be further subdivided in to fixed, variable and semi-fixed overheads. Therefore separate budgets required for each item.

MATERIAL PURCHASE BUDGET

The different levels of material stock are based on planned out. Once the production budget is prepared, it is necessary to consider the requirement of materials to carryout the production activities. Material purchase budget is concerned with purchase and requirement of direct materials to be made during the budget period. While preparing the materials purchase budget, the following factors to be considered carefully:

1. Estimated sales and production.
2. Requirement of materials during budget period.
3. Expected changes in the prices of raw materials.
4. Different stock levels, EOQ etc.
5. Availability of raw materials, i.e., seasonal or otherwise.
6. Availability of financial resources.
7. Price trend in the market.
8. Company's stock policy etc.

CASH BUDGET

This budget represents the anticipated receipts and payment of cash during the budget period. The cash budget also called as Functional Budget. Cash budget is the most important of the entire functional budget because cash is required for the purpose to meeting its current cash obligations. If at any time, a concern fails to meet its obligations, it will be technically insolvent. Therefore, this budget is prepared on the basis of detailed cash receipts and cash payments. The estimated cash receipts include: cash sales, credit sales, collection from

sundry debtors, bills receivable, interest received, income from sale of investment, commission received, dividend received and income from non-trading operations etc.

The estimated cash payments include the following:

1. Cash purchase
2. Payment to creditors
3. Payment of wages
4. Payments relate to production expenses
5. Payments relate to office and administrative expenses
6. Payments relate to selling and distribution expenses
7. Any other payments relate to revenue and capital expenditure
8. Income tax payable, dividend payable etc

MASTER BUDGET

When the functional budgets have been completed, the budget committee will prepare a master budget for the target of the concern. Accordingly a budget which is prepared incorporating the summaries of all functional budgets. It comprises of budgeted profit and loss account, budgeted balance sheet, budgeted production, sales and costs. The ICMA England defines a Master Budget as 'the summary budget incorporating its functional budgets, which is finally approved, adopted and employed'. The master budget represents the activities of a business during a profit plan. This budget is also helpful in coordinating activities of various functional departments.

FIXED BUDGET

A budget is drawn fro a particular level of activity is called fixed budget. According to ICWA London 'Fixed budget is a budget which is designed to remain unchanged irrespective of the level of activity actually attained." Fixed budget is usually prepared before the beginning of the financial year. This type of budget is not going to highlight the cost variance due to the difference in the levels of activity. Fixed budgets are suitable under static conditions.

FLEXIBLE BUDGET

Flexible budget is also called variable or sliding scale budget, 'takes both the fixed and manufacturing costs into account. Flexible budget is the opposite of static budget showing the

expected cost at a single level of activity. According to ICMA, England defined Flexible Budget is a budget which is designed to change in accordance with the level of activity actually attained."

According to the principles that guide the preparation of the flexible budget a series of fixed budgets are drawn for different levels of activity. A flexible budget often shows the budgeted expenses against each item of cost corresponding to the different levels of activity. This budget has come into use for solving the problems caused by the application of the fixed budget.

Advantages of flexible budget

1. In flexible budget, all possible volume of output or level of activity can be covered.
2. Overhead costs are analysed into fixed variable and semi-variable costs.
3. Expenditure can be forecasted at different levels of activity.
4. It facilitates at all times related factor can be compared, which essential for intelligent decision are making.
5. A flexible budget can be prepared with standard costing or without standard costing depending upon what the company opts for.
6. A flexible budget facilitates ascertainment of costs at different levels of activity, price fixation, placing tenders and quotations.
7. It helps in assessing the performance of all departmental heads as the same can be judged by terms of the level of activity attained by the business.

DISTINCTION BETWEEN FIXED BUDGET AND FLEXIBLE BUDGET

Fixed budget	Flexible budget
1. It does not change with volume of activity.	1. It can be recast on the basis of volume.
2. All costs are related to one level of activity only.	2. Costs are analysed by behaviour and variable costs are allowed as per activity attained.
3. If budget and actual activity levels vary, cost ascertainment does not provide a correct picture.	3. Flexible budgeting helps in fixation of selling price at different levels of activity.
4. Ascertainment of costs is not possible in fixed cost.	4. Costs can be easily ascertained at different levels of activity.

5. It has a limited application for cost control.	5. It has more application and can be used as a tool for effective cost control.
6. It is rigid budget and drawn on the assumption that conditions would remain constant.	6. It is designed to change according to changed conditions.
7. Comparison of actual and budgeted performance cannot be done correctly because the volume of production differs.	7. Comparisons are realistic according to the change in the level of activity.
8. Costs are not classified according to their variability, i.e., fixed, variable and semi-variable.	8. Costs are classified according to the nature of their variability.

ZERO BASE BUDGETING (ZBB)

Zero base budgeting is a new technique of budgeting. It is designed to meet the needs of the management in order to ensure the operational efficiency and effective utilization of the allocated resources of a concern. This technique was originally developed by Peter A. Phyhrr, Manager of Taxas Instrument during 1969. This concept is widely used in USA for controlling their state expenditure when Mr. Jimmy Carter was the president of the USA. At present the technique has for its global recognition for many countries have implemented in real terms.

According to Peter A. Phyhrr ZBB is defined as an "Operative planning and budgeting process which requires each manager to justify his entire budget in detail from Scratch (hence zero base) and shifts the burden of proof to each manager to justify why we should spend any money at all".

In zero-base budgeting, a manager at all levels, have to justify the importance of activity and to allocate the resources on priority basis.

Important aspect of ZBB

Zero-based budgeting involves the following important aspects:

1. It emphasizes on all requisites of budgets.
2. Evaluation on the basis of decision packages and systematic analysis, i.e., in view of cost benefit analysis.
3. Planning the activities, promotes operational efficiency and monitors the performance

to achieve the objectives.

Steps involved in ZBB

The following are the steps involved in zero base budgeting:

1. No previous year performance inefficiencies is to be taken as adjustments in subsequent year.
2. Identification of activities in decision packages.
3. Determination of budgeting objectives to be attained.
4. Extent to which zero base budgeting is to be applied.
5. Evaluation of current and proposed expenditure and placing them in order of priority.
6. Assignment of task and allotment of sources on the basis of cost benefit comparison.
7. Review process of each activity examined afresh.
8. Weightage should be given for alternative course of actions.

Advantages of ZBB

1. Utilization of resources at a maximum level.
2. It serves as a tool of management in formulating production planning.
3. It facilitates effective cost control.
4. It helps to identify the uneconomical activities.
5. It ensures the proper allocation of scarce resources on priority basis.
6. It helps to measure the operational inefficiencies and to take the corrective actions.
7. It ensures the principles of management by objectives.
8. It facilitates co-operation and co-ordination among all levels of management.
9. It ensures each activity is thoroughly examined on the basis of cost benefit analysis.

PERFORMANCE BUDGETING

Performance budget has been defined as a 'budget based on functions, activities and projects.'

Performance budgeting may be described as 'the budgeting system in which input costs are related to the performance, i.e., end results.'

According to National Institute of Bank Management, Performance budgeting is, "the process of analyzing, identifying, simplifying and crystallizing specific performance objectives of a job to be achieved over a period, in the framework of the organizational objectives, the purpose and objectives of the job."

From the above definitions, it is clear that budgetary performance involves the following:

1. Establishment of well defined centres of responsibilities.
2. Establishment for each responsibility centre- a programme of target performance is in physical units.
3. Forecasting the amount of expenditure required to meet the physical plan laid down.
4. Comparison of the actual performance with the budgets, i.e., evaluation of performance.
5. Undertaking periodic review of the programme with a view to make modifications as required.

RESPONSIBILITY ACCOUNTING

Responsibility accounting involves the creation of responsibility centres. A responsibility centre may be defined as an organization unit for whose performance a manager is held accountable. Responsibility accounting enables accountability for financial results and outcomes to be allocated to individuals throughout the organization. The objective is to measure the result of each responsibility center. It involves accumulating costs and revenues for each responsibility centre so that deviation from performance target (typically the budget) can be attributed to the individual who is accountable for the responsibility centre.

UNIT – 4

MARGINAL COSTING

MARGINAL COSTING:

It is a technique of decision making, which involves-

(a) Ascertainment of Total Costs,

(b) Classification of Costs into – (1) Fixed and (2) Variable, and,

(c) Use of such information for analysis and decision- making.

Features

1. Thus, Marginal Costing is defined as the ascertainment of Marginal Cost and of the effect on profit of changes in volume or type of output, by differentiating between Fixed Costs and Variable Costs.
2. Marginal Costing is mainly concerned with providing of information to Management to assist in decision-making and to exercise control.
3. Marginal Costing is also known as "Variable Costing" or "Out of Pocket Costing"

ABSORPTION COSTING:

Absorption costing is a procedure of cost recognition wherein costs are classified on the basis of functions (not based on nature). All costs of production, both fixed and variable are included in inventory valuation.

DIFFERENCE BETWEEN MARGINAL COSTING AND ABSORPTION COSTING:

Particulars	Marginal Costing	Absorption Costing
1. Cost Recognition	Only Variable Costs are included for product costing & inventory valuation	Both Fixed and Variable Costs are considered for product costing and inventory valuation.
2. Classification	Classification of expenses is based on nature, i.e. Fixed and Variable	Classification of expenses is based on functions, i.e. Production, Administration, Selling and Distribution.

3. Treatment of Fixed Costs	Fixed Costs are regarded as a Period Cost. Profitability of different products is analyzed by their PV Ratio (and not Net Profit Ratio)	Fixed Costs are charged to cost of production. Each product bears a reasonable share of Fixed Cost and thus the profitability of a product is influenced by the apportionment of Fixed Costs.
4. Presentation	Cost data presented highlight the Total Contribution and Contribution of each product	Cost data are presented on conventional pattern. Net Profit of each product is determined after subtracting Fixed Cost along with their variable costs.
5. Effect of Stockholding	The difference in the magnitude of Opening Stock and Closing Stock does not affect the unit cost of production.	The difference in the magnitude of operating and Closing Stock affects the unit cost of production due to the impact of related Fixed Cost.
6. Variance Reporting	In variance Reporting, FOH Expenditure Variance only can be computed. There is no Volume Variance since Fixed Overheads are not "absorbed"	In Variance Reporting, FOH Expenditure and Volume variance can be computed. Volume variance can also be sub-classified into Capacity, Efficiency and Calendar variances.

Variable Cost/Marginal Cost:

1. Variable Cost is that portion of cost, which changes or varies in relation to output/ volume/ quantity.
2. Generally, Variable Cost= Direct Materials + Direct Labour + Direct Expenses + Variable Overheads.
3. Variable Cost per unit remains constant.
4. Total Variable Cost, i.e. Number of Units of output * Variable Cost per unit, varies with output/ volume.
5. Examples of Variable Costs are Raw Material, Power, Royalty (based on production) etc.

Fixed Cost:

1. Fixed Costs are costs which remains constant, for a given period of time, irrespective of level of output.

2. Generally, Fixed Cost consists of fixed production overheads plus administrative overheads plus fixed selling and distribution overheads.
3. Fixed Cost per unit of output will, however, vary inversely with changes in the level of output. As output increases, Fixed Cost per unit decreases, and vice-versa.
4. Fixed Costs are treated as Period Costs and are therefore charged to Profit and Loss Account.
5. Examples of Fixed Costs are Rent, Salary, Insurance, etc.

Semi Variable Cost:

1. These are expenses that exhibit characteristics of Fixed and Variable Costs. Examples of Semi-Variable expenses are delivery van expenses, telephone charges, depreciation as a whole.
2. They may behave in any of the following manner-
   a. Expenses that do not change when there is a small change in the level of activity but change whenever there is a slightly big change- e.g. no change in expenses if output increases by 10%, but increases by 5% for increase in output beyond 10%
   b. Expenses that change in the same direction as the change in level of activity but not in the same proportion, e.g. an expense may change by 1% for every 2% change in activity.
   c. Expenses which remain fixed upto a particular level and thereafter become variable, vice-versa.
3. Semi-Variable expenses usually have two parts- a fixed part and a variable part. By a systematic analysis, all semi-variable expenses can be split up into variable and fixed portions.

ADVANTAGES OF MARGINAL COSTING:

1. **Pricing decisions:** Since Marginal Cost per unit is constant from period to period within a short span of time, firm decisions on pricing policy can be taken. If Fixed Cost is included, the unit cost will change from period to period depending upon the volume of output. This will make decision making difficult.
2. **Overhead Variance:** Overheads are recovered in costing based on pre- determined rates. This creates the problem of treatment of under- recovery or over- recovery of Overheads,

If Fixed Overheads were included. Marginal Costing avoids such under- recovery or over recovery of Fixed Overheads since these costs are recognized as Period Costs.

3. **True Profit:** Under the Marginal Costing technique, the Stock of Finished Goods and Work- In –Progress are carried on Marginal Cost basis and the Fixed Expenses are written off to Profit and Loss Account as period Cost. This shows the true profit of the period.
4. **Break Even Analysis:** Marginal Coasting helps in Break-Even Analysis, which shows the effect of increasing or decreasing production activity on the profitability of the Company.
5. **Control over Expenditure:** Segregation of Expenses as Fixed and Variable helps the Management to exercise control over expenditure. The management can compare the actual variable expenses with the budgeted variable expenses and take corrective action through Variance Analysis.
6. **Business Decision-Making:** Marginal Costing helps Management in taking a number of business decisions like Make or Buy, Discontinuance of a particular product, acceptance of export offers, etc.

LIMITATIONS OF MARGINAL COSTING:

1. **Difficult to classify:** It is difficult to classify exactly the expenses into Fixed and Variable category. Most of the expenses are neither totally variable nor wholly fixed.
2. **Contribution is not final:** Contribution of a product itself is not a guide for optimum profitability unless it is linked with the Key Factor.
3. **Wrong pricing decisions:** Sales Staff may mistake Marginal Cost for Total Cost and sell at a price, which will result in loss or low profits. Hence, Sales Staff Should be cautioned against incorrect pricing decisions, while giving them information on Marginal Cost.
4. **Stock Valuation:** Overheads of fixed nature cannot altogether be excluded particularly in large contracts, while valuing the Work-In-Progress. In order to show the correct position, Fixed Overheads may also have to be included in Work-In-Progress. This aspect in not considered in Marginal Costing.
5. **Naive assumptions:** Some assumptions regarding the behavior of Revenues and Costs are not necessarily true in a realistic situation. For example, additional output can be sold only by reducing sale Prices.

6. **Ignores time value:** Marginal Costing ignores time factor and investment. For example, the Marginal Cost of two jobs may be the same but the time taken for their completion and the cost of machines used may differ. The true cost of a job, which takes longer time and uses costlier machine, would be higher. The effect of time value of money is not analysed by Marginal Costing.

COST-VOLUME-PROFIT ANALYSIS (CVP):

Cost-Volume-Profit Analysis is the analysis of three variables viz. Cost, Volume and Profit, which explores the relationship existing amongst Costs, Revenue, Activity Levels and the resulting profit. CVP analysis aims at measuring variations of profits and costs with volume, which is significant to business profit planning.

CVP analysis makes use of principles of Marginal Costing. It is an important tool of planning for making short-run decisions.

Objectives of CVP

1. It helps the management for profit planning.
2. It helps to relate the costs, volume of production and selling price and hence shows the effect of changes of all the factors on profit.
3. The analysis helps to prepare flexible budgets for different levels and cost and profit at each level.
4. Decisions can be taken regarding whether to buy a product from outside or to produce it in the factory itself, pricing of products during competition etc.
5. The actual costs and profits incurred can be compared with the planned costs and profits for having control on them.

Limitations of CVP

1. It assumes that output is the only factor affecting costs, but there are other variables which can affects costs, e.g. inflation, efficiency and economic and political factors.
2. Not all costs can be easily and accurately separated into fixed and variable elements.
3. CVP analysis assumes that costs and sales can be predicted with certainty. However, these variables are uncertain and management must try to incorporate the effects of uncertainty into his information.
4. Total fixed costs do not remain constant beyond certain ranges of activity levels but increase in a step like fashion.

5. CVP analysis is useful only if it is analysed for a small part of business and for a small period of time.

CONTRIBUTION:

1. Contribution is the excess of Sales Revenue over Variable Costs, i.e.
   Contribution = Sales Less Variable Costs

It is called so, since it initially contributes towards recovery of Fixed Costs and thereafter towards Profit of the business. The Contribution earned by a business, forms a fund for Fixed Expenses and Profit.

Profit:

Profit is the excess amount of Contribution over and above Fixed Cost, i.e. Profit = Contribution less Fixed Costs

Basically, the business earns a surplus of Sale Revenue over Variable Costs, which is called Contribution. Once Fixed Costs are fully recovered, such excess Contribution is termed as Profits.

Means of increasing profits: Profits can be increased by:

1. Increasing the Selling Price per unit.
2. Increasing the volume of sales.
3. Decreasing the Fixed or Variable Expenses.
4. Where more than one product is manufactured, by choosing the ideal product mix giving more weightage for products having higher PV Ratio.

PROFIT VOLUME RATIO:

The Profit Volume Ratio (PV Ratio) is the relationship between Contribution and Sales Value. It is also termed as Contribution to Sales Ratio. Formula:

$$\text{P V Ratio} = \frac{\text{Contribution}}{\text{Sales}} * 100$$

Both Contribution and Selling Price per unit, or Total Contribution and Total Sales Value may be used in the above calculation. Alternative Formula:

$$\text{PV Ratio} = \frac{\text{Change in Contribution}}{\text{Change in Sales}} * 100, \quad = \quad \frac{\text{Change in Profit}}{\text{Change in Sales}} * 100$$

PV Ratio = 100% less Variable Cost Ratio

Significance of PV Ratio:

1. PV Ratio is considered to be the basic indictor of the profitability of the business.
2. The higher the PV Ratio, the better it is for a business. In the case of a Firm enjoying steady business conditions over a period of years, the PV Ration will also remains stable and steady.
3. If PV Ratio is improved, it will result in better profits.

Improvement of PV Ratio:

1. By reducing the Variable Cost,
2. By increasing the Selling Price, or
3. By increasing the share of products with higher PV Ratio in the overall sales mix. (Where a Firm produces a number of products)

Uses of PV Ratio:

1. To compute the Variable Costs for any volume of Sales.
2. To measure the efficiency or to choose a most profitable line. The Overall Profitability of the Firm can be improved by increasing the sales/ output of a giving a higher PV Ratio.
3. To determine Break – Even Point and the level of output required to earn a desired Profit.
4. To decide the most profitable sales-mix.

BREAK-EVEN POINT (BEP):

The Break-Even Point is the level of Sales at which there is neither a Profit nor a Loss to the Firm (Total Revenue = Total Costs). In other words, at this point, the Total Contribution equals Fixed Costs. Formula:

a. Break Even Point (in Rs.) = $\frac{\text{Fixed Costs}}{\text{P V Ratio}}$

b. Break Even Point (Qty) = $\frac{\text{Fixed Costs}}{\text{Contribution per Unit}}$

Assumptions underlying Break Even Analysis:

1. Total Costs can be easily classified into Fixed and Variable categories.
2. Selling price per unit remains constant, irrespective of quantity sold.
3. Variable Costs per unit remain constant. However Total Variable Costs increases with increase in output levels.
4. Fixed Costs remain the same irrespective of output.
5. Productivity of the factors of production will remain the same.
6. The state of technology, process of production and quality of output will remain unchanged.
7. There will be no significant change in the level of Opening and Closing Inventory.
8. The Company manufactures and sells a single product. In the case of a multi- product Company, the sales- mix remains unchanged.
9. Both Revenue and Cost functions are linear over the range of activity under consideration.

Significance of BEP:

BEP represents the Cut- off Point for Profit or Loss of the business.

At the BEP, the Profit or Loss equals zero. The significance of BEP may be summarized as-

Level of Sales	Impact on Profits
Less than BEP	Firms incurs Losses (Contribution < Fixed Cost)
Equal to BEP	No Profit & No Loss (Contribution = Fixed Cost)
More than BEP	Firms earns Profits (Contribution > Fixed

Cost)

MARGIN OF SAFETY (MOS):

Margin of Safety (MOS) represents the difference between the Sales at Break Even Point and the Total Sales. It can be expressed as a percentage of Total Sales, or in value, or in terms of quantity. Formula:

a. Margin of Safety (in Rs.) = Total Sales Less BE Sales

OR

= Profit/PV Ratio

b. Margin of Safety (Qty) = Profit/Contribution per unit

Significance of MOS:

1. Upto BEP, the Contribution earned is sufficient only to recover Fixed Costs. However, beyond the BEP, the Contribution is called Profit.
2. Profit is nothing but Contribution earned out of Margin of Safety Sales.
3. The size of the Margin of Safety shows the strength of the business.
4. A low Margin of Safety indicates that the Firm has large Fixed Expenses and is more vulnerable to changes in Sales.
5. A high Margin of Safety implies that a slight fall in Sales may not affect the business very much.

Improvement in MOS:

1. Increase in Selling Price, provided demand is inelastic so as to absorb the increased price.
2. Reduction in Fixed Expenses.
3. Reduction in Variable Expenses.
4. Increasing the Sales Volume provided capacity is available.
5. Substitution or introductions of a product mix such that more profitable lines are introduced.

KEY FACTOR OR LIMITING FACTOR:

1. Key Factor represents a resource whose availability is less than its requirement. It denotes the resources constraint situation. It is a factor, which at a particular time or over a period limits the activity of a firm.

2. It is also called Critical Factor, since it is vital or critical to the firm's success and Budget Factor, since budgets are formulated by reference to such limitations or restraints.
3. Examples of Key Factors are: Shortage of Raw Material, Labour Shortage, Restrictions in Plant Capacity, Demand or Sales Expectancy etc.
4. In case of Key factor situation, the procedure for decision making is as under:
    a. Identity the Key Factor
    b. Compute Contribution per unit of the product
    c. Compute Contribution per unit of Key Factor
    d. Rank the product based on Contribution per unit of Key Factor

BREAK-EVEN CHART:

The Break Even Chart is a graphical representation of Cost-Volume-Profit relationship. It depicts the following:

1. The profitability of the firm at different levels of output.
2. Break-Even-Point-No profits no loss situation.
3. Relationship between variable cost, fixed cost and contribution.
4. Margin of Safety - the difference between total cost and the sales at Break-Even point.
5. Angle of Incidence-This is the angle at which the total sales line cuts the total cost line. If the angle is large, the firm is said to make profits at a high rate and vice versa.

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